



OUTCROP

The Newsletter of the Avon RIGS Group

Issue No. 20 December 2005

RIGS are Regionally Important Geological and Geomorphological Sites

The Group's aim is to identify, survey, protect and promote geological and geomorphological sites in the area of the former County of Avon – the modern Unitary Authorities of Bath & North East Somerset, Bristol, North Somerset and South Gloucestershire. RIGS are selected for their educational, research, historical and aesthetic value.

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Twenty-five years of geoconservation in Avon

In 2005 the Avon RIGS Group has been celebrating 25 years of site recording and conservation in what was the County of Avon. Although RIGS haven't been around that long, Avon's was something a pioneer and the group's ancestor, upon which to some extent the national scheme was based, started life back in 1980.

Editions of *Outcrop* are now available on-line, with colour pictures, downloadable as PDF files from our website at:
www.brerc.org.uk/rigs/rigs_home.htm

It was not possible to bring you an edition of *Outcrop* in May, because the editor was abroad. This then is a bumper edition to make up for it, with plenty to celebrate.

Once, the opportunity for learning about geology and researching geological topics in the field was relatively easy, because of the still large number of small quarries and cuttings available. However, gradually the small quarries closed and production became concentrated in a few huge aggregate quarries. The old ones degraded naturally, or were filled in with rubbish. Pity then the poor geology

student, having to learn a field science just from books in classrooms.

In 1977 the Geological Curators' Group promoted the National Scheme for Geological Site Documentation to build up data on the country's fast-disappearing sites. Bristol City Museum & Art Gallery was designated as the geological record centre not just for Avon, but for Somerset, Gloucestershire and Wiltshire as well. The then Curator of Geology, Micky Curtis, and his staff bravely made a stab at the mammoth task of collecting data on sites across this area, in addition to looking after the museum's collections.

In 1980 the Manpower Services Commission (MSC) funded the employment of a team of graduates in the museum. Andrew Mathieson of the museum's Schools Department was responsible for three staff that visited and recorded about 400 geological sites over a year. Each had a specific area. Bill Draper covered Dundry, Lulsgate and Wrington Hill, Tina Ford - Clevedon, Portishead and Failand, and John George - the area associated with William Smith and the coal canal.

At the same time Andrew asked representatives of the local geological community to help form a Geological Conservation Group for Avon. Its aims were:

1. establish a dialogue between Avon Wildlife Trust, Nature Conservancy Council, geology societies, country planners, universities, colleges and schools concerning local geological conservation
2. initiate a county survey of geological sites by volunteers and MSC workers
3. make provisional lists of geological sites worthy of conservation to pass on to the Avon County planners
4. help to clean sites in collaboration with the Geology Section of the Nature Conservancy Council

5. prepare trails and arrange field trips and lectures to demonstrate the value and interest of local geological sites.

The group's first meeting was held on 3rd November 1980 and it was attended by staff from museums, universities, societies and the county planning department. Andrew acted as chair and Joy Coppin was secretary. They decided that they would be most effective as a group within the Avon Wildlife Trust. Two of that group are still members of today's RIGS Group: Andrew himself and Eileen Pounder (Stonebridge these days), who then represented the Bristol Naturalist's Society.

As part of another MSC Community Employment Programme the Bristol Regional Environmental Records Centre (BRERC) team was formed. Charlie Copp, a geologist who was the Assistant Curator of Natural History at the museum, took charge of BRERC. At the same time he took over as chairman of the Geological Conservation Group. David Peacock and Andrea Selby were employed in January 1986 to look after the geological sites side. They produced a standardised term list for local stratigraphy and a consultation draft of the most important geological sites for the use of planning and conservation bodies. This was circulated widely amongst the geological community. As a result Andrea published a list of 234 sites of geological significance out of a long list of over 800. This was the foundation for the set of RIGS we have today.

In September 1988 the Community Programme came to an end and the geological records passed to the museum's Geology Department. John Hart, who had been employed as Geology Sites Assistant on the programme at BRERC, continued as a volunteer. He made visits to the 275 prime sites (mostly by public transport!), checking on their details and condition and photographing them. At the end of his survey he went on to produce a digest of the data. Like a guidebook, he used

symbols to summarise points relating to the most useful information for each locality. One such was the existence of a nearby pub – the subject of another of John’s surveys!

Meanwhile, the Nature Conservancy Council promoted the idea of Regionally Important Geological and Geomorphological Sites to cover sites that were seen to be of local importance, but which did not have the full legal designation of the SSSIs. They were generally organised on a county basis and RIGS Groups came into being to survey and conserve sites in their areas. Bristol Museum was able to pass on its relevant records to Somerset and to Gloucestershire as their groups were set up.

At the Avon Geological Sites Seminar that was held on 23rd November 1994, it was resolved that the Avon RIGS Group should be ‘reconstituted’. It held its first meeting in February 1995 and the late Ron Smith became its first Chairman. The first copy of ‘Outcrop’ was published later in the year, edited by Sarah Myles of BRERC: Rachel Corlett edited later editions.

The 25th Anniversary Fieldtrip

On Saturday 24th September a day-long programme of events was arranged to celebrate the quarter-century. Where better to hold it than at the heart of the ‘Cradle of English Geology’, in the area where William Smith first invented stratigraphy.

It was a beautiful autumn morning. Our party gathered on Summer Lane, Combe Down, on the southern edge of Bath and set off for a walk around some of the Smith sites – the most historic of the Avon RIGS and some of the most significant anywhere in the country.

We started at Kingham Field Quarry, which seems to be the best candidate for the site where Smith and his brother John

attempted to cash in on the demand for Bath Stone.



The beds here correspond fairly well with a drawing by Smith, which is now in the archives at Oxford University. The quarry is long out of use and there has been some recent tipping of rubbish. B&NES and the RIGS Group are hoping to get this situation remedied and the access improved.



Stone from the quarry was carried downhill on an inclined railway and the party followed its line, here and there spotting a few of the stone blocks that would have carried the rails.

Summer Lane Field RIGS, on the way down, is the scene of some very recent geological activity. Its hummocks are due to a landslide that occurred as the result of sudden torrential rain in July 1968. This event caused a great deal of flash-flooding in the area around Bristol and Bath, especially bringing devastation to the Chew valley.



Smith's railway continues as a path through woods and passes two more RIGS on its route. One is in the top bed of the Inferior Oolite, the other in the underlying Lower Jurassic Midford Sand. Both may have been associated with Smith and exploited by him and his railway.

The track came down to the Somersetshire Coal Canal, where the quarry products were presumably loaded on to barges. Here, at Tucking Mill, Smith had his house, although the one that bears a plaque was built later, on what remained of the mill in which he had an interest.



Smith's happiest years were spent at Tucking Mill but he was forced by bankruptcy to leave it. Long afterwards he wrote a poem about his old home.

Returning up the hill by another path, we skirted the cutting of the Somerset & Dorset Railway's Midford Tunnel. Then we passed the sad ruins of the old De Montalt Mill, set up as a paper factory and exploiting the line

of springs that breaks out at the junction of the Great Oolite and impervious Fuller's Earth clay. The springs are now part of Bath's drinking water supply

Smith's Somersetshire Coal Canal was the setting for the next section of the day's entertainment. A short section has been restored (much had become the trackbed of the Limpley Stoke-Camerton railway in 1916). Here, at the 'Angelfish' restaurant, we tucked into a huge lunch – if only we had had a few more hours to do it full justice!

The third part of the festivities allowed for some digestion. The party boarded the narrow boat 'Jubilee' and cruised the short stretch of the Coal Canal and then on the wider waters of the Kennet & Avon Canal as far as Avoncliff and back. Plenty of fine exposures of Middle Jurassic limestone were to be seen, some of them RIGS, but all of them in the neighbouring county of Wiltshire. We weren't really trespassing, as our number did include some members of the Wiltshire RIGS Group.

Safely back on shore in former Avon, despite going aground a couple of times, we thanked Andrew Mathieson for arranging such a wonderful way to celebrate the anniversary.

25th Anniversary Lecture

By the time you read this it will have passed, but as advertised in the last BRERC newsletter, in honour of the Avon Group's anniversary; Hugh Torrens, Emeritus Professor of the History of Science and Technology at Keele University, gave a lecture on "*Early geologists in the Bath and Bristol area*". It was one of the Winter Lecture series organised by the Bristol Magpies (the friends group of the Museum and Art Gallery). Hugh has spent a lot of time researching the early days of the 'Cradle of English Geology' and the circle of William Smith.

The lecture was held on Wednesday, December 14th in the Pugsley Lecture Theatre, Queen's Building, University Walk.

Reading

A History of the Byfield Mine, Combe Down

Richard T A Irving

Published by The Combe Down Heritage Society, 2005 ISBN 0-9550655-0-X

This recently published book is clearly of great interest to residents of Combe Down, particularly during the current mines stabilisation programme which will infill most of the underground cavities that have threatened their buildings in the village. Since it makes public the results of much recent research into the mines, it will also be of value to anyone interested in the history of the quarrying and use of Bath Stone.

Richard Irving approaches the subject from the very personal perspective of a hole in his garden, which turned out to be an entrance to the Byfield Mine. He found little information available about its history, so set out to try and find more. Research into the history of old quarries is often difficult, but he was helped by the fact that stone from Combe Down was used for such buildings as Longleat House, Windsor Castle and Buckingham Palace, where there are detailed records. In addition he has had access to house deeds from other members of the Combe Down Heritage Society and information from the archaeologists working for the Stone Mines Project Team.

Irving has concentrated on the period after the death of Ralph Allen in 1764, which previous researchers have found particularly difficult. Allen had transformed the earlier quarries on Combe Down into a very successful stone production industry, which served the architects of Georgian Bath. He not only owned the quarries and set up a railway to cheaply transport the stone down to the River Avon, but was also very much involved in the building industry

itself. However, after his death the mines and their equipment were sold off to a number of different quarrymasters, and it is their varied fortunes that Irving has done much to record.

This book is an attractive A5 sized glossy paperback with 88 pages and 8 pages of illustrations. It is good to see that these include extracts from archive papers, which are otherwise difficult to access. There is a map, which shows the location of the two main mines in Combe Down, but unfortunately it does not help to identify some of the sites described in the text. From a geological point of view, it is a pity that the distribution of the stone is not shown on a map or cross-section. Another useful addition would be an index. Despite such reservations, the Combe Down Heritage Society is to be congratulated on this excellent publication.

Copies are available at £9.95 (plus 75p post and packing) from 12 Greenwood Place, Combe Down, Bath BA2 5DD - cheques payable to the Combe Down Heritage Society.

Spreading the word

Eileen Stonebridge talked to the Bristol Parks Forum on the 18th June, explaining about the diversity of Bristol's geology and how it affects soils and wildlife. She was able to illustrate her talk with specimens of rocks and fossils from the collection of the City Museum & Art Gallery.

The annual Rock and Fossil Event on August Bank Holiday Monday provided another opportunity to publicise geology to passing walkers and cyclists on the Bristol-Bath Railway Path. The location at Saltford is a RIGS with an interpretation board, one of several RIGS along the path.

Eileen was in action again as part of the Bristol Festival of Nature in October. As last year, she again led a walk around the centre of Bristol, following the route of the RIGS Group's '*Bristol Heritage in Stone*'

booklet. The weather was bad, raining throughout, but it did not dampen too much the enjoyment of the participants, who gave a donation at the end.

The next opportunity to catch Eileen is in January, when she will give a talk on *Bristol's heritage in stone*, this time indoors in the dry on a virtual walk using slides. See the listings section for details.

South Gloucestershire project

Having acquired a grant from the Aggregates Levy for interpretation of a number of geological sites in South Gloucestershire, members of the RIGS Group and designers from South Gloucestershire Council have got together on several occasions. On 27th September the selected sites were visited to see where interpretation boards could be positioned and refresh our memories about what was to be seen there.

Aust Cliff is, of course, an old favourite, even when caught in a sudden lashing shower coming up the estuary. It is a good site for its rocks, fossils and minerals and even has some folding and faulting.



Slickstones Quarry (above) at Cromhall is a large hole in Carboniferous Limestone, but is chiefly important for its fragmentary reptile fauna that has been found in Triassic infilling of fissures. The quarry has even produced its very own dinosaur, called *Agnosphitys cromhallensis*.

Barnwood Quarry, at Chipping Sodbury, is another big Carboniferous Limestone aggregate quarry, but long worked out. There are some difficulties in siting a board here, as the only points where there is a good view are not good places to encourage parking.

The group stopped briefly at Hawkesbury Quarry (Middle Jurassic Inferior Oolite building stone), which is one of the candidates for interpretation, although it is not on the immediate list for 2005-6.

Shortwood, near Pucklechurch is fascinating for its mix of geology and industrial archaeology: the remains of Brandy Bottom coal mine with buildings of Lias limestone, Bath Stone and brick from the adjoining brickworks. The area is now back in production, as there is a clay pit next to the mine ruins that is intermittently being worked in the late Carboniferous Red Measures. The RIGS Group is carrying out logging of the pit, but the Red Measures are turning out to be strangely devoid of plant fossils.



Lastly, came Wick Quarry, which looks a bit like the Grand Canyon – but on a slightly smaller scale, with the River Boyd as the Colorado! The sun was bright, but getting low and bringing out the many colours of the rocks. As a bonus, on the rim is an exposure of the unconformity between the Carboniferous Limestone and Triassic Cotham Beds.

Listings

Museums with geology displays in former Avon

Bath at Work Museum

Bath Stone quarrying and other industries
Julian Road, Bath BA1 2RH
tel: 01225 318348
www.bath-at-work.org.uk
open: 10.30-4pm April-October (every day),
November-March (Sat & Sun only)

Bristol City Museum & Art Gallery

Local and global rocks, fossils and minerals. A new
Dinosaurs Gallery should be completed soon.
Queen's Road, Bristol BS8 1RL
tel: 0117 922 3571
www.bristol-city.gov.uk/museums
open: every day 10am-5pm

Kingswood Heritage Museum

Coal mining and brass production
Tower Lane, Warmley, Gloucestershire
tel: 0117 956 4896 or 967 5711
open: Tues, 2nd Sun 2-4pm (and 4th Sun, April-
October)

North Somerset Museum

Mendip minerals and some fossils
Burlington Street, Weston-super-Mare BS23 1PR;
tel: 01934 621028, email: museum.service@n-
somerset.gov.uk
website: www.n-somerset.gov.uk
open: Mon-Sat 10am-4.30pm.

Radstock Museum

Coal mining, minerals, Jurassic and Carboniferous
fossils.
Waterloo Road, Radstock BA3 3ER
tel: 01761 437722, email:
radstockmuseum@ukonline.co.uk
website www.radstockmuseum.co.uk
open: Tue-Fri & Sun 2-5pm, Sun & Bank Holiday
Mon 11am-5pm

Royal Literary & Scientific Institution, Bath

Items from the geology collection occasionally
on view
16-18 Queen Square, Bath; tel: 01225 312084, fax:
01225 429452
email: enquiries@brlsi.org
Website: www.brlsi.org

Thornbury & District Museum

Occasional geology-related exhibitions
4 Chapel Street, Thornbury BS35 2AR

tel: 01454 857774, website:
www.thornburymuseum.org.uk
open: Tues-Fri 1-4pm, Sat 10am-4pm; closed Bank
Holidays and two weeks either side of Christmas

Coming talks, events and field trips

Tuesday 17 January 2006
Talk: Presentations by three Bristol University
research students
WEGA

Wednesday 18 January 2006
Talk: Bristol heritage in stone
Eileen Stonebridge (Avon RIGS Group)
BNS

Sunday 5 February 2006
AGM and talk: Professor Richard Lisle
OUGS

Tuesday 14 February 2006
Talk: The Geology of Nigeria
Dr Allan Insole
WEGA

Thursday 16 February 2006
Event: The Rocky Road Show
Annual geology hands-on and identification day
10am – 4pm
Bristol City Museum & Art Gallery

Tuesday 14 March 2006
Talk: Exploring subglacial Lake Ellsworth, Western
Antarctica
Prof. Martin J. Siegert (Bristol University)
WEGA

4-11 April 2006
Field trip: Volcanoes on a shoestring - Tenerife
OUGS

28 April – 1 May 2006
Field trip: Anglesey
Leader: Dr Charlie Bendall
OUGS

Sunday 30 April 2006
Field trip: William Smith and the Somersetshire Coal
Canal
Andrew Mathieson (Avon RIGS Group)
WEGA

Sunday 14 May 2006
Field trip: The quarries at Dolyhir
Leader: Tom Cotterell
OUGS

Contacts for further information

Bath Geological Society

Secretary: Vicki Griffiths 01225 858123, email: secretary@bathgeolsoc.org.uk
Meetings are held at 7.15 pm, Bath RLSI, 16-18 Queen Square, Bath.
Website: www.bathgeolsoc.org.uk

Bath Royal Literary & Scientific Institution (BRLSI)

16-18 Queen Square, Bath; tel: 01225 312084, fax: 01225 429452
email: enquiries@brlsi.org
Website: www.brlsi.org

Bristol City Museum & Art Gallery

Queen's Road, Bristol BS8 1RL. tel: 0117 922 3571
email: general_museum@bristol-city.gov.uk
Website: www.bristol-city.gov.uk/museums

Bristol Lapidary Society

Jim Edmundson, 60 Lays Drive, Keynsham, BS31 2LA; tel/fax: 0117 986 5937

Bristol Naturalists' Society Geological Section

Hon. Secretary: Sue Flint
tel: 0117 951 1118
Meetings: 7.00, University of Bristol, Department of Earth Sciences S.H. Reynolds lecture theatre (G25).
Website: www.bristolnats.org.uk
note new contact name

Open University Geology Society (OUGS)

Jan Ashton-Jones, tel: 01432 870827,
email: Jashtonjon@aol.com
Website: www.severnside-ougs.co.uk

Rockwatch

The national club for young geologists
Website: www.rockwatch.org.uk

University of Bristol

Department of Continuing Education
8-10 Berkeley Square, Bristol BS8 1HH, tel. 0117 928 7153
Website: www.bristol.ac.uk/

West of England Geologists' Association (WEGA)

Graeme Churchard
email: secretary@wega.org.uk
Recently redesigned website:
www.wega.org.uk

How you can support the work of the Avon RIGS Group

Surveying and interpreting geological and geological sites in the former County of Avon can be very interesting and rewarding work. The Avon RIGS Group is always looking for fresh volunteers, so if you are interested and able to commit a small amount of time to this work, please contact one of the following Avon RIGS members:

Andrew Mathieson
Eversleigh, Newlands Hill, Portishead, BS20 9AZ
email: mathieson@waitrose.com

Simon Carpenter - tel: 07732116671,
email: simonccarpenter@yahoo.com

Contributions to Outcrop

Short articles and photographs of local geological and geomorphological interest are always welcome. Please contact Roger Clark - City Museum & Art Gallery, Queen's Road, Bristol BS8 1RL, tel: 0117 922 3593, email: roger_clark@bristol-city.gov.uk

Getting yourself on to the Outcrop mailing list

To receive your FREE copy of the Avon RIGS Newsletter, please contact BRERC, Ashton Court Visitor Centre, Long Ashton, BS41 9JN, tel: 0117 9532140, fax: 0117 9532143, email: info@brerc.org.uk



The Avon RIGS Group is co-ordinated by Bristol Regional Environmental Records Centre (BRERC).