

Welcome to issue number 23 of our GeoSuffolk Times - for those who value Suffolk's geodiversity. Caroline Markham 15.01.15

[www.geosuffolk.co.uk](http://www.geosuffolk.co.uk)

## William Smith 1769-1839

This year the country is celebrating William Smith's 1815 Map of the Strata of England and Wales with part of Scotland. He showed that fossils, which had for many years been collected for display cabinets and study, could be used to distinguish one stratum from another and that these beds of rock were arranged in a definite order. He plotted the outcrops of the different strata and hence the geological map. William was a land surveyor. Born in Churchill, Oxfordshire the son of a blacksmith, he was called 'the father of English geology' by Professor Adam Sedgwick of Cambridge University.

William Smith had several connections with Suffolk. As a land surveyor he was here in 1812-1814 when he designed an improved drainage system for Minsmere Level. As a geologist his 1816 'Strata identified by Organized Fossils' contains a plate of good figures of Crag fossils including fig.1 *Murex contrarius*, the Reversed Whelk. By 1820 he recorded that the 'Greensand' (Palaeocene beds above the Chalk) of the Sudbury area was locally known as 'Devil's Dung'. Bob Markham (RM)

## New Plaques at Walton and Playford

A plaque to mark Felixstowe antiquarian Samuel D Wall was unveiled by the Felixstowe Society outside Susan's Flowers in Walton High Street in September 2014. (He was a watch-maker and jeweller with a shop in Walton.) In 1953 he donated a horn-core of a gazelle, found in the Crag when South Hill was created in Felixstowe early in the 20<sup>th</sup> century, to Ipswich Museum.

In October 2014 a plaque for Sir George Biddle Airy (1801-1892) was unveiled on the cottage opposite Playford Church (a former residence). As Astronomer Royal he defined the Greenwich Meridian, his telescope being made by Ransomes of Ipswich. He also determined the mean density of the Earth using pendulum experiments in a deep well, measuring the increase in gravity with depth below the surface (Phil.Trans.cxlvi,342), and published the theory of isostasy ('crustal balance'), that mountain ranges have root structures to maintain isostatic equilibrium. RM

## Periglacial Landforms in Breckland

Not long after the publication of GeoSuffolk's work on the patterned ground at Knettishall Heath CGS (White Admiral no.86) my attention was drawn to a series of Ordnance Survey Air photographs along the Suffolk/Norfolk border taken in 1973. Large areas of patterned ground stand out, like giant fingerprints all over these photographs, so I used the local Geological Survey maps to do a rough statistical survey of the areas of Chalk and coversand which have these periglacial features. I came up with the astounding figure of 92% (of the photos on either Chalk or coversand showed patterned ground landforms) - read all about it in White Admiral no. 88, Summer 2014, online at <http://www.sns.org.uk/pages/wad.shtml> CM

## The Pliocene Forest goes to London

GeoSuffolk's stand at the Geologist's Association Festival of Geology (University College London, November 1st 2014) celebrated five years of the 'Pliocene Forest' at Rockhall Wood SSSI in Sutton. The trees have thrived to the extent that prunings were available to display at the show alongside the posters of the two information panels at the site (download at [www.geosuffolk.co.uk](http://www.geosuffolk.co.uk)). Living greenery is quite an eye-catcher at a geological exhibition and it attracted much attention, achieving rapid sales of GeoSuffolk's 'Pliocene Plant Profiles' booklet by Barry Hall, with a free packet of 'Pliocene' seeds. So 2015 may see tree genera recorded in the pollen record of the Coralline Crag sprouting up all over south-east England! CM

## Ipswich Museum Activities

March 31st 1.30-3.30 and April 1st 10.30-12.30: GeoSuffolk will be at the Egg-stravaganza. What is the biggest fossil egg in the world?

April 7th 1.30-3.30 and April 8th 10.30-12.30: GeoSuffolk will be at the Egyptian fun days, showing emeralds from Cleopatra's mine and much more. See <http://www.cimuseums.org.uk/CHttpHandler.ashx?id=14446&p=0> for the Museum leaflet. RM

## Essex Gem and Mineral Show

Saturday February 21st, 10am-4pm

<http://www.erm.org/our-show.html>

North Romford Community Centre,

Collier Row, Romford,

Adults £2

## News: Geodiversity Providers and Owners

Newbourne Great Pit CGS

On November 5th 2014 the Suffolk Wildlife Trust dug out part of the Red Crag pit adjacent to Newbourne Springs nature reserve. The talus was removed, creating a 3.85m vertical face suitable for nesting sand martins – and curious geologists! Thank you to the SWT for inviting GeoSuffolk to record the geology. We asked the digger to excavate a temporary trench through the base of the pit - it hit London Clay at 3.65m down, with quantities of water pouring in from the Red Crag just above it. After recording the profile, the trench was filled in. This is a public access site – well worth a visit to see the newly excavated Red Crag face, which is stunningly attractive (very red!) and yields fossils, noticeably *Spisula*. CM

Orford Castle Pit CGS

The disused Coralline Crag pit immediately to the south-west of Orford Castle has been overgrown and in need of attention for many years. Its relevance to the Castle is important: it is probable that much of the Coralline Crag used in its construction came from this pit and the well in the castle basement would have been dug through this rock. On November 6th, Suffolk Coast and Heaths Area of Outstanding Natural Beauty volunteers guided by GeoSuffolk members exhumed by hand, spade and wheelbarrow part of the old 'Rock Bed' quarry face. There were 16 of us and we made good headway, uncovering a face about 3m high with some large-scale current bedded units – worth a visit. A big thank you to English Heritage and SCH AONB. CM

Landform and Geology in AONBs

It is good to see these specifically mentioned in a recent AONB newsletter: 'AONBs are designated solely for their landscape qualities, for the purpose of conserving and enhancing their natural beauty; this includes landform and geology, plants and animals, landscape features and the rich history of human settlement over the centuries'. RM

The Ipswichian Interglacial

The name is in the textbooks but how did it come about? Towards the end of 1952 Ipswich Corporation began excavations for the new Chantry Sewage Purification Works at the site of Bobbits Hole, a small property on the south bank of the Belstead Brook valley, south of Ipswich, and a tributary of the River Orwell. Its geological interest was discovered by Harold Spencer of Ipswich Museum. Beds of clay and peat (interpreted as an ancient lake bed) were overlain by contorted clayey gravels. The lake beds contained vast numbers of fossils – shells of freshwater molluscs; seeds of aquatic plants; remains of beetles; bones of fish and amphibians; and bones and teeth of voles. Richard West, then Research Assistant in the Botany School at Cambridge University, was at that time engaged in analysing pollen and that from Bobbits Hole showed that climate conditions were of interglacial character. And thus Bobbits Hole became the type locality of the Ipswichian Interglacial. RM ('The Ipswichian period took place 120,000 years ago; sea levels were 20ft higher than now' – from 'Ipswich Facts', Ipswich Star January 2014. At the type site (Bobbits Hole) non-marine deposits range from below to above present-day sea level!)

The English Geodiversity Charter

This was launched at Westminster on 21.10.14 – GeoSuffolk was able to make comments on an early draft. See <http://englishgeodiversityforum.org> to download the Charter. CM

Larvik and Lowestoft

Erosion has undermined the sea wall at part of Lowestoft's South Beach and rock from Norway is being used to form a protective revetment. The East Anglian Daily Times 07.11.14 reported 'Waveney District Council's coastal management service manager Bill Parker visited the Larvik quarry in Norway to personally oversee the rock loaded on to the ship.' RM

Stone Carving for Sudbury, and more

The EADT 24.12.14 reported that a replacement centrepiece for the fountain and horse trough on Sudbury's Market Hill is being carved in Yorkshire Stone by Luxstone stonemasons. An earlier (November 2014) piece in a Woodbridge newspaper reported that Nick Hindle of the East of England Co-op Funeral Services stonemasons H L Perfitt was carving the names of over 400 UK servicemen and women into Portland Stone at the Armed Forces National Memorial Arboretum in Staffordshire. RM

The Ipswich Archaeological Trust

View IAT newsletters online at <http://ipswichat.org.uk/> See no.62 for 'Stoke Bone Bed' and no.50 for 'Ipswich Acheulian'. RM