

**Backwell Environment Trust**  
**Bulletin 33 - Autumn 2016**  
**[www.backwellenvironmenttrust.org](http://www.backwellenvironmenttrust.org)**



[A very warm welcome to our latest autumn bulletin](#)

The trusty BET volunteers have been beavering away on a wide range of projects to improve the nature reserves over the past six months, including restoring another section of wildflower meadow, rebuilding a dry-stone wall, sorting out some of the muddy paths as well as finding the time to scythe our ever-expanding wildflower meadows.



Well, it's that time of year again when BET holds its Annual General Meeting, this time on **November 12th, at 2pm in the Parish Hall**. We hope you will be able to come along and join us and find out what your Trust has been up to over the past year.



# **BET Annual General Meeting**

## **Saturday November 12th 2016**

### **Backwell Parish Hall**

Your trustees will be on hand to serve refreshments and answer any questions you may have about BET, its activities, past, present or future.

The AGM will start at 2pm, and after the short official business, there will be a break for tea, coffee and cakes.

After tea, there will be an illustrated talk by local photographer Colin Higgins on Wildlife Gardening.



## **Agenda**



AGM minutes held on November 28th 2015  
The Chair's Report    Treasurer's Report  
Secretary's Report    Woodland Report  
Election of Trustees    Any other business



Printed copies of the minutes of our last AGM and the annual accounts will be available at the meeting. The minutes can also be found on the BET website under 'About BET' / 'AGM'

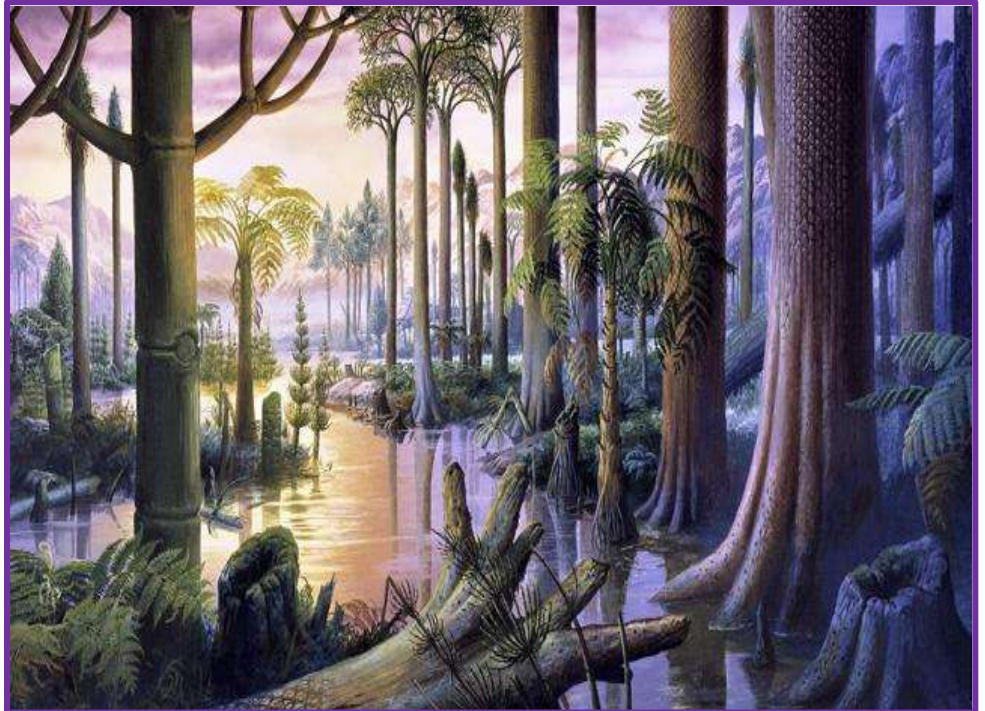
# A Geological History of Broadfield Down

The oldest rocks that can be seen exposed in this area are the Upper Old Red Sandstones which were laid down between 380 and 360 million years ago (mya) during the **Devonian** geological period (420 - 360 mya).

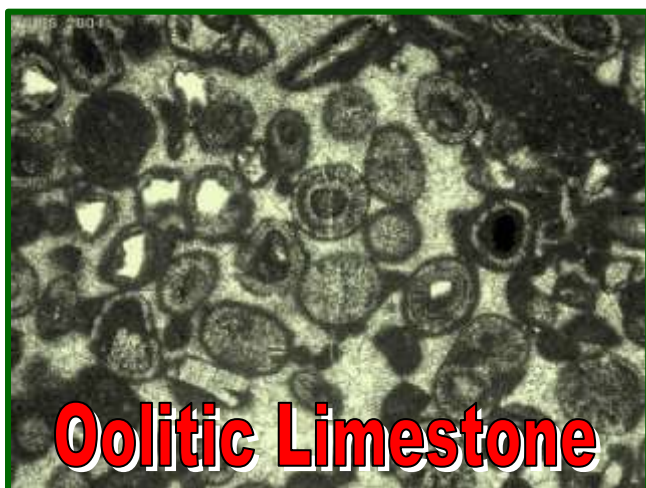
The part of the British Isles that includes Broadfield Down was then drifting slowly north from 20 - 25 degrees south of the equator. (Backwell Hill, where the BET nature reserves are located, is part of a rocky dome called Broadfield Down). It was part of a tectonic plate that included the continents of Baltica and Laurentia. This plate was separated from another plate called Gondwana by the Rheic Ocean.

Scotland and England had been recently united by a collision between the plates of Laurentia and Avalonia. This collision closed the Iapetus Ocean and caused a wrinkling of the earth's crust which resulted in a mountain building process called the Caledonian Orogeny. These massive

mountains are called the Caledonides and, as they started being quickly eroded, the material produced was carried south by massive meandering river systems in an arid continental, desert environment. This material was laid down and lithified to form sandstone beds which are known as the Upper Old Red Sandstone. The name comes from the red-brown colour of the oxidised iron (haematite) coating on the quartz grains. Within the Old Red Sandstone are fine grained mica-rich sandstones, shales and mudstones.



These rocks form the cores of the Mendips, Broadfield Down and Failand Ridge. They are known



**Oolitic Limestone**

as the Portishead Beds and can be seen exposed along the coast between Clevedon and Portishead. At the start of the following **Carboniferous** period (360 - 300 mya), all the continents had moved together, adding Laurentia and Gondwana, closing the Rheic Ocean. The British Isles were now moving slowly northwards across the equator into the northern tropics. Shallow seas started to cover the Devonian desert.

Various limestones were deposited in these warm,

shallow seas. Some of these limestones are oolitic - consisting of small, < 2mm, egg-shaped particles called ooids. Because they were shallow and warm, there was a high evaporation rate which made the seawater supersaturated with salts.

These were formed in a similar way to rolling snowballs. Calcium carbonate accreted around a particle of shell or sand, and the ooids grew in size as they were rolled around the sea floor in the lime-saturated water. This process now continues in the Bahamas.

One of these limestones is known as Clifton Down Limestone which forms the crags alongside which the Geology Trail was built. Many of these limestones contain fossils, crinoids, corals and

brachiopods, and are very common in this area.

Not many of these fossils can be seen on Backwell Hill but an exception is an excellent specimen of *Siphondendron Martini* (*Lithostrotion*) that was found on a rock pile near the view point at the top of the trail in Badgers Wood during a geological field trip by the Bristol Naturalists.



As the Carboniferous period progressed, the Rheic Ocean closed and so there was increasing tectonic pressure from the south west. This is called the Variscan Orogeny. It resulted in crustal folding in the area and formed the Mendips, Broadfield Down, Failand Ridge and the Nailsea syncline. It continued for some 100 million years into the **Permian** period.

The rivers bringing erosion material from the north reduced so the formation of deltas slowed and eventually stopped. Rivers then started flowing into the area from the south and east, bringing large quantities of sand that were laid down across an area from Swansea to Oxford.

This is known as Pennant Sandstone which can be seen in the face in Conyegar Quarry. The Pennant is up to 330m thick in the area and contains thin coal seams.

The next geological period is the **Triassic** (250 - 200 mya). The mountains that were created during the Variscan Orogeny are being rapidly eroded during this time.

The coarse-grained products of this erosion are known as Dolomitic Conglomerate which can be seen as a skirt surrounding Broadfield Down. They create an

unconformity with the Clifton Down Limestone that can be seen in, for example, the path bed running down from the Jubilee Stone to Church Town. It can also be seen in the old quarry face of the disused Cheston Combe quarry and in the Tyntesfield quarries for example. This



conglomerate has been used as a building stone in the area. It is probably best seen in the walls of the Tyntesfield sawmill.

No rocks from the following periods, **Jurassic** (200 - 150 mya) and **Cretaceous** (150 - 66mya), remain in the area, so either they were deposited then eroded away or they were not deposited in the first place.

Recent **Quaternary** (2.6 mya - present), drift material covers the low lying areas surrounding Failand Ridge, such as Nailsea Moor to the south and the Gordano Valley to the north. This is mainly peat and alluvium - clay, silt and gravel.

This means that Broadfield Down is an eroded Carboniferous dome structure in a Triassic landscape. It is remarkable how much complex and interesting geology exists in such a small area.



Richard Kefford, Avon RIGS Group



# Woodland Report

This year's summer weather may not have turned out to be a record breaker, but the heady mix of sunshine and rainfall has at least suited the germination of the dormant wildflower seeds in our extension to the fabulous Coupe meadow. There were slightly fewer butterflies on the reserves this year, most probably due to the changeable weather, but numbers of dormice seem to be on the up again after two pretty disastrous years of mild winters and changeable, cold springs.



So just what have those hard-working BET volunteers been up to over the past six months?

## Muddy Paths



Our wet winters have been making some sections of the bridleway in Jubilee Stone Wood very muddy once again, in spite of the two tonnes of woodchip we heaped on the path in 2015. We had another offer of free woodchip this year so yet more has been put down to hopefully improve things. However, one section of path next to our Coupe meadow extension was 6 inches deep in mud during the winter, so a more permanent solution is being tried out here. Large stones have now been sunk into the ground to produce a rough, cobbled effect which, if successful, should keep everyone's feet dry this coming winter.



## Dry Stone Walling

The BET volunteers seem to have mastered the very tricky art of dry stone walling in a ridiculously short space of time and this year they put their new-found skills to work on the

collapsed section of wall opposite Church Town. After only six morning sessions, they had dug out all the buried stone and re-built the wall making a huge difference to the beauty of this very visible entrance to Badgers Wood.

### Bracken Pulling

After 10 years of removing bracken from our wildflower meadows, I'm pleased to say that we have finally got it under control. This year the volunteers only needed to pull around the Jubilee Stone and in the brand new extension to the Coupe meadow.



**Restored Dry Stone Wall**

### Wildflower Meadows

Once again our restored wild flower meadows looked fabulous this year and they all seem to have been at their peak in different months of the year from springtime right through to late summer.



**The Layers Meadow in Spring**

After the huge task by our volunteers of extending the Coupe meadow last winter, it's been fascinating to watch as nature has slowly transformed the bare soil into a wildflower meadow. It's even more amazing to think that the plants that are now germinating here have lain dormant as seeds for almost exactly 50

years until the area was opened up to the sunlight once again. On close inspection, there are large numbers of wildflowers in this new meadow with high numbers of the yellow St. John's Wort and the red-flowered Marjoram, so hopes are high that next summer should be quite a show.

### Coupe Meadow Extension Progress



**March 2016**



**August 2016**

## A New Seeded Meadow

Since BET started restoring Backwell Hill's long-lost wildflower meadows, our philosophy has always been to open up an area and then let nature do the restoration work for us. However this year we have tried something new with a new 100m<sup>2</sup> patch of fledgling meadow close to the top of the Fern Way.



**The Nailsea Seeded Meadow**

Inspiration came from the old Glassworks site (opposite Tesco) in Nailsea which was once alive with wildflowers before the area was landscaped a couple of years ago. However, before the heavy machinery was brought in, volunteers from the Friends of Trendlewood Park collected as many seeds from the wildflowers as they could and transplanted them to a prepared site on the edge of the

Golden Valley playing fields. This summer the saved wildflowers looked fabulous so it got me thinking, could we try something similar on BET's reserves?

So this summer, we removed the ground cover of ivy and bramble, hedge-laid and removed some nearby trees to let in more light, and finally broke up the soil to create a seed bed. In mid-September, the area was then seeded using UK-grown stock as well as seeds collected from BET's own meadows. So next year



**Preparing our Seedbed**

it will be fascinating to see just what germinates in this trial meadow, although we'll probably have to wait for the summer of 2018 to see it in full bloom.



## Scything the Meadows

BET hand scythes its restored 2 acres of wildflower meadows, usually beginning in late August and hopefully (!) finishing by December. This ensures the invasive species such as bramble are kept in check, whilst removing all the cut material will, in the long term, reduce the fertility of the soil which will benefit the wildflowers.

## Species List

The list of species recorded on the two BET reserves continues to grow and is now over 500 in number. This figure includes an astounding 290+ species of plants, proof, if proof was needed, that our 22 acres of protected land on Backwell Hill are truly remarkable. (You can see the full list of species on the BET website).

## Volunteer Time

Every year, the BET volunteers freely put in a staggering amount of time, both in the day-to-day running of the Trust, as well as the huge amount of practical work we do on our reserves. Over the last twelve months, the fantastic figure of **2117 volunteer hours** has been recorded - a **23%** increase over last year - so, once again, a **BIG BET** thank you to you all.

Jan Chambers



And finally....BET has a thriving volunteer group that meets every Monday and on the fourth Saturday morning of each month. Absolutely no experience is necessary and it's great fun, so why not come along and give it a try?



## THE ESMOND OGBORNE MEMORIAL PLAQUE

Visitors to the viewpoint seat in Badgers Wood will have noticed a new memorial plaque this year, in memory of Esmond Ogborne.

BET has gratefully received a large donation of £498.50 collected from family and friends of Esmond, who sadly died on 27th February. The generous gift gives some indication of just how well known and popular Esmond was locally.

He was in fact a local man who was born in Backwell, and lived here all his life; making many a journey by foot along Cheston Combe Road, between the two woodlands in his youth. His wish was to make a gift to a charity in the community he loved so much. Esmond's wife, Christine,

has informed me that she now enjoys taking their young grandson, Jake, into the woods to visit the plaque and walk the pathways.

We hope that Badgers Wood will become a special place of remembrance for all who knew and loved Esmond.



Anne-Marie Smith



# Spring Bird Walk

On Saturday 30th April, Trevor Riddle, with John Croxton, (both from YACWAG) led a walk to help us to identify birds on our reserves by their song. As the canopy thickens with new leaves, it is quite difficult to see birds amongst the trees and in the open, they fly so very fast! However,



their presence can be indicated by their song, if you can recognise it but, as most have a song, an alarm call and contact calls, it is quite challenging as many seem so similar.

While some such as the chiffchaff are quite unmistakable, others such as the great tit have a confusingly wide range of songs or calls. At this time of year it is further complicated by the calls of baby birds! In the lower part of Jubilee Stone Wood we know that there are often nuthatch to be found, so we watched and waited until we finally heard one calling. Frustratingly we didn't actually see it, but Trevor confirmed that it was definitely a nuthatch. I was hoping that we would hear or see marsh

tits as we know they have nested on the reserves but we were not that lucky, nor did we spot any treecreepers. We did hear the slightly wistful song of the robin, the explosive energy of the wren and lots of chaffinches, chiffchaffs, tits and glorious blackcaps.

Trevor and John were very patient with us but we all concluded that we definitely need more practice! The most satisfying way is

to visually identify a bird, then watch the beak move as it sings and try to remember the sound!

It was a lovely sunny morning to be out and we enjoyed the increasing numbers of spring flowers as well as the birds. Trevor and John were very complimentary about the management of the reserves and hope that as insects proliferate in the various habitats, so will the birds.



We are most grateful to Trevor and John for sharing their expertise and time. More photos can be seen in the photo gallery of our website.



## Just a little feedback about the bird walk from Trevor :



*"Both John and I enjoyed the morning on the BET reserve with a very pleasant group of people. It was the first time that we had been in the Cabin and the reserve is a delight with all the spring flowers. We both congratulate BET on splendid management. I feel sure that the insect population will increase and the birds will follow. I have no doubt that Marsh Tits and Treecreepers are resident but they can be difficult to detect. I felt sure that Marsh Tits had gone from Cadbury Hill; I couldn't find any for a period of five years and now I am seeing them again. My guess is that they have been there throughout."*

Carrie Riches



# BET's Wildflower Meadows

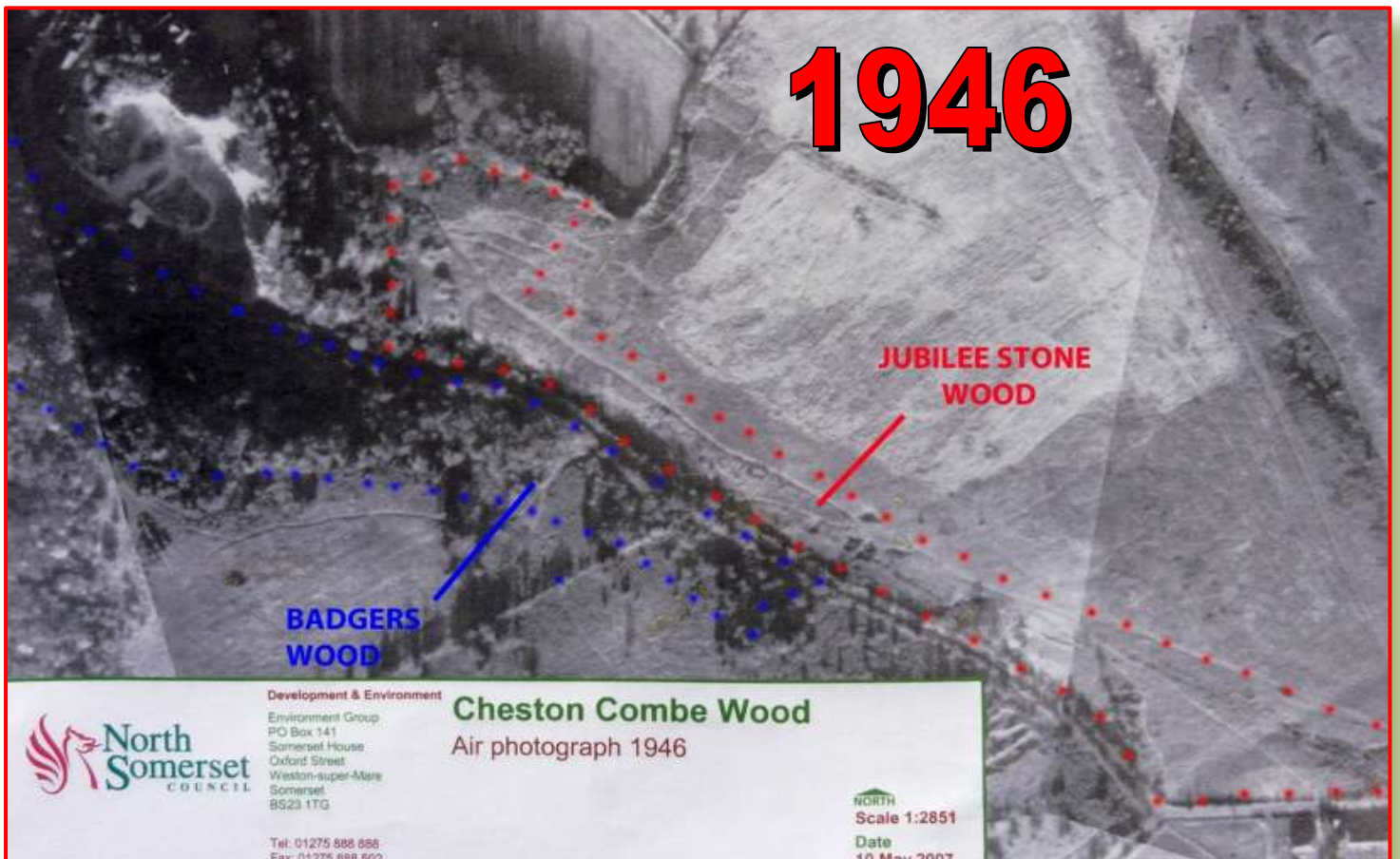
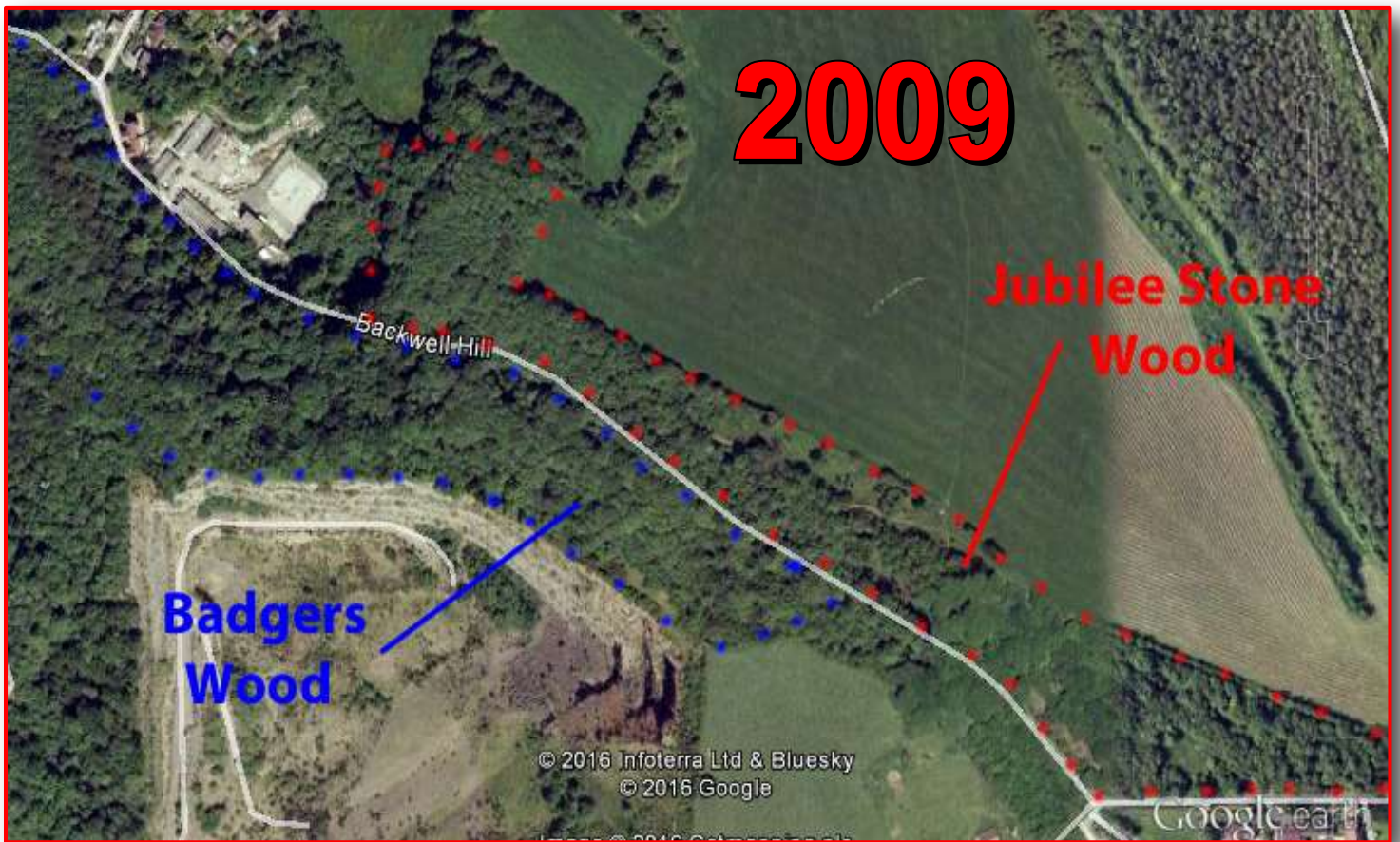
**A**s you know, we've been very busy for nearly ten years now, restoring some of the long-lost wildflower meadows on Backwell Hill with great success I might add, but it set me wondering, do we know just how long these meadows have been in existence? BET's two nature reserves, even after ten years of grassland restoration, are still around 90% woodland, but has this always been the case?

## 1960's - 2016 : Woodland



Well, after a bit of research, it transpires that most of the woodland we see today only dates back to the mid 1960s. Everything changed after the winter of 1961/62 when the fence that separates what is now Jubilee Stone Wood from the large pasture field, was put up. The fence excluded grazing animals which allowed tree seedlings (mainly ash and hawthorn) to quickly colonise the meadows, eventually creating too much shade for the wildflowers to continue. But all was not completely lost because during the last season they were able to flower, and their seeds dropped into the soil where they laid dormant for the next 50 years until the trusty BET volunteers took the first steps to restore the meadows to their former glory.

Having lived in Backwell for over 30 years now, I seem to remember that prior to BET purchasing the land which is now Jubilee Stone and Badgers Woods, this part of the hillside was predominately woodland. Although BET has restored many sections of wildflower meadow on both reserves over the past ten years, the aerial photograph from 2009 confirms just how dominant the wooded areas still are on our hillside. So it's all the more interesting to see the aerial photograph taken in 1946 which shows the exact opposite - mainly open ground with just a few patches of woodland.



### 1812 - 1960's : Pasture

Maps drawn up in 1956, c1884 and 1840, also show that the entire hillside was described as 'pasture', except between about 1890 and the early 1940s, when a large part of the field next to Jubilee Stone Wood was used as a golf course.

## 1318 - 1812 : Rabbit Warren (Pasture)



In the Middle Ages, if you owned poor quality agricultural land but wanted to get rich quick, rabbit warrens were often an excellent way of gaining an income from poor, sandy or heath land. Rabbits are not native to Britain.

They were initially introduced by the Romans but they seem to have died out after the Romans left, so it was the Normans who re-introduced them in the late 11th or 12th century. Ill-adapted to the English climate and easy prey for native predators, rabbits had to be kept in special areas or warrens - often walled or fenced to prevent them from escaping. Their rarity meant that their meat was prized as a delicacy, while their fur was used for trimming clothes. In the 13th century, one rabbit was worth more than a workman's daily wage.

The warren on Backwell Hill (covering sections of both Jubilee Stone and Badgers Wood reserves) was established in 1318 and was in operation for almost 500 years. It was fairly large in size, measuring approximately 600 x 300 metres - large enough in fact to be recorded on one of the first Ordnance Survey maps in our region.



**Ordnance Survey  
Map c1817**

As rabbits are predominately grass grazers, we can therefore be confident that during this period, the area of the warren was meadow (although probably quite heavily nibbled!). An added advantage on Backwell Hill was the presence of gorse which the rabbits were able to eat, especially during the lean winter months.

## 1318 - 800BC

During the two thousand years prior to the 1300s, very little evidence exists (not surprisingly!) as to whether Backwell Hill was covered with trees or meadows.

## 2500 - 800BC : The Bronze Age

The large field next to Jubilee Stone Wood still has the barely-visible remains of at least five Bronze Age barrows which were usually constructed on the false crest of a hillside. This was to ensure they could be viewed not only by the people living below them, but also by people living

some distance away, so it's a fair bet that during that time period between 2,500 and 4,000 years ago, the field was probably open grassland.

I think it's fascinating to realise that the wildflower meadows on Backwell Hill that BET are now busily restoring, can be reliably dated back 700 years, and there's the possibility that they could be much, much older than that. This long history is probably why our reserves have such an incredible number of plant species growing on them, so next summer when the meadows are in full bloom again, just remember it's not only a beautiful site but a also piece of our local history.

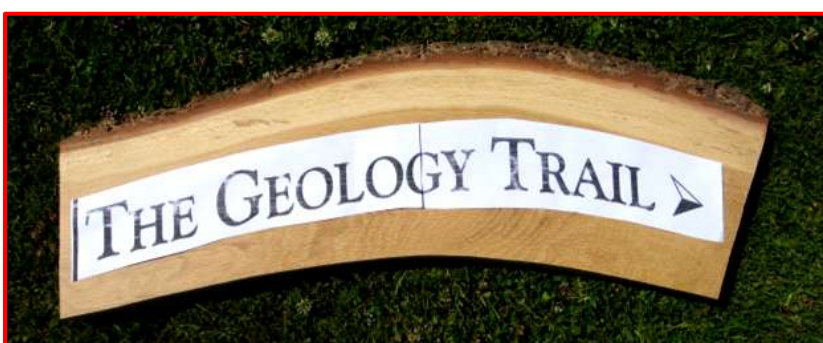
Jan Chambers

# Star Signs

When BET acquired its reserves, colourful interpretation boards were located next to the three main archaeological features to provide visitors with useful information about the sites. Over time, these gradually faded and disintegrated and really needed replacing. As a consequence, the



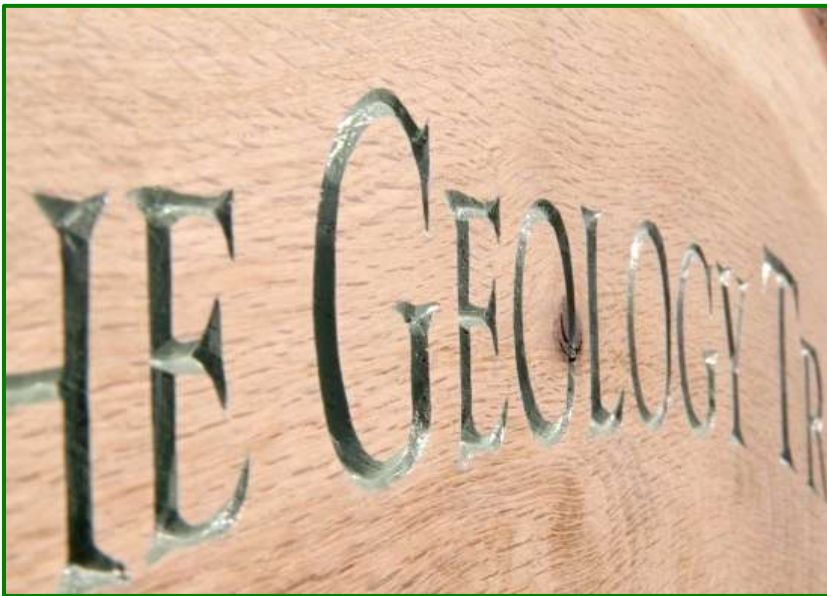
text of the three signs was updated and a fourth board designed for the Geology Trail. The new A3 signs were printed by Signet Signs in Backwell using UV ink 'direct print' onto an aluminium substrate. The resulting boards are vibrant, weatherproof and lightfast and so should last for many years to come.



At the same time, we thought about buying some aluminium direction boards for the Fern Way and Geology Trail paths. Being a green woodworker, I decided to have a go at carving these signs in wood - to save money and

provide a more rustic appearance. Fortunately I had some 3cm thick oak board left over from a previous charity project, with an attractive curved profile. I used Photoshop to stretch, warp and fit the text over an image of the board and printed out a template for stencilling the design onto the wood.

It was then a matter of carving the letters. This can be done with flat chisels and curved gouges, but I find it easier to use a very sharp V-shaped Swiss gouge and a mallet. Curves are not easy as you find you are cutting with the grain on one side of the cut, and against the grain on the other.



Once the carving was complete, I applied a couple of coats of coloured acrylic paint to the incised letters and Danish oil to the surrounding wood for protection.

The resulting signs appear to have met with approval and hopefully, with regular maintenance, will help guide visitors around our lovely walks and reserves for years to come.



Peter Speight

# Dormice Report 2016

The dormouse season started in April with a torpid female which was snoring audibly, something I had never heard before. It was an



encouraging start to the year because in 2015, numbers were worryingly low. We found eight in May, which is the largest number we have ever recorded that early, and eight in June (probably



not all the same animals but it is hard to tell as I am not licensed to mark them). In July we found four, including a female that was clearly pregnant. We hoped to see the babies in August but for some reason we didn't find any dormice at all that month. In September we found four adults, including a female with seven young, which is a very big litter; they

usually have four or five. The total so far, including recaptures, is thirty-two which equals our best ever year and, as I write, we still have a month to go.

Gill Brown



# North Somerset Nature Net

WEBSITE : <http://www.northsomersetnaturenet.webs.com>



The North Somerset Nature Net continues to grow and now has nine local groups involved, all busy conserving the wildlife in their own locality. The Nature Net was formed to strengthen the ties between local groups such as BET and to help us share our knowledge, resources and experiences. A website has now been set up and it's a great place to go to see what other groups are up to in North Somerset.

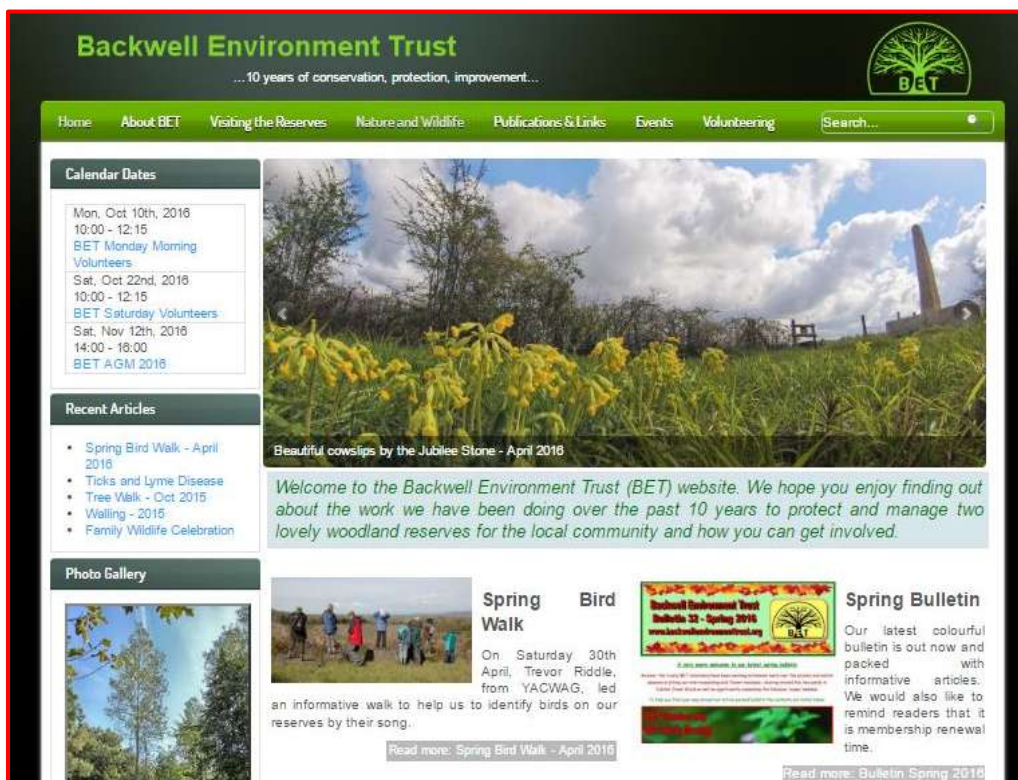


# BET's Fabulous Website

WEBSITE : <http://www.backwellenvironmenttrust.org>



Well, maybe I'm a bit biased but I think Backwell Environment Trust's website is simply stunning.



One of our trustees, Peter Speight, manages an incredibly informative website where you can find out everything you wanted to know about BET but were afraid to ask. It's got all the details of BET events as well as a fabulous photo gallery where you can follow the progress of many of BET's projects.

