Country-*Side*

Volume 36 number 6 Summer 2025
The Magazine of the British Naturalists' Association

Blackcap – Wet Woodland Fly – Wildcat Sightings – Blackthorn Sawfly – South Yorkshire Woodlands – Fallow Deer Rut – Beth Chatto's Gardens – Pembrokeshire Hedgebanks – Thomas Bewick

British Naturalists' Association

Membership

If you would like to join the BNA
or simply renew your membership,
these are the current annual rates

Ordinary / Associate: £20 (senior £15)
Registered member: £25 (senior £25)
Fellow: £30 (senior £25)
Student Member: £10
Youth Member: £7
Family Members: (where at least one person is an ordinary member – additional £4)
Life Member: £400
Corporate Members: £250
Affiliated Members: £14
Overseas Members –
contact Hon. Membership Secretary for details

All levels of membership receive
Country-*Side* and **British Naturalist** magazines

Youth members receive an additional
'Welcome Gift'
Visit the BNA Website for information on how to pay

27 Old Gloucester Street,
London WC1N 3AX
www.bna-naturalists.org
info@bna-naturalists.org

Registered charity no. 296551
(Company limited by guarantee no. 2119195)

Legacies Gifts to Charities are free from Inheritance Tax. If you believe in the aims of the BNA, why not consider leaving a legacy in your will? The following wording would be appropriate: "I give the sum of…….pounds to British Naturalists' Association (charity no: 296551), 27 Old Gloucester Street, London WC1N 3AX and I declare that the receipt of the Hon. Treasurer for the time thereof, shall be good and sufficient discharge of such legacy".

Corporate Opportunities

- Become Corporate Members
- Nominate us as your companies "Charity of the Year"
- Employee Volunteering – to help with a specific fundraising activity or help with our branches

Sponsorship of: Young Naturalists' projects, awards, BNA Publications and Conferences

Join the BNA Today
And Make a Difference

giftaid it

Gift Aid Declaration (UK taxpayers only)

1. You can cancel this declaration at any time by notifying BNA in writing.
2. You must pay income tax/capital gains tax at least equal to the tax BNA reclaims on your donation within the tax year (currently 20p to each £)
3. If in the future your tax circumstances change, you can cancel your declaration.
4. Please notify the BNA if you change your address

If you pay a higher rate you can claim further tax relief in your self-assessment return.

Title……

Name……

Address……

……

Signature……

Date……

Get Involved
Help
Make a Real
Difference

Scan this code to donate

Country-*Side*

SUMMER 2025
Vol. 36 No 6
ISSN No. 0011-023X

Founded by E. Kay Robinson in 1905
Editor: Pauline Rutherford
Type setting: P. Rutherford
Proof reading: Dr. Neil Fairley
Printing: Hot Metal Press, Barnsley

Country-side is published by:
British Naturalists' Association ©2021
Registered Charity No. 296551
A Company Limited by Guarantee.
Registered No: (02119195) in England & Wales
Registered Office: 27 old Gloucester Street,
London WC1N 3AX

British Naturalists' Association
Contact Details:
Email: info@bna-naturalists.org
Website: www.bna-naturalists.org

Editors Contact:
Email: country-side@bna-naturalists.org

Front cover: Fallow Deer Stag *Dama dama*
Photo: Nigel Woodall
Back cover: *Tachina lurida* a bristly moth parasite fly
Photo: C. Gibson

Picture Index

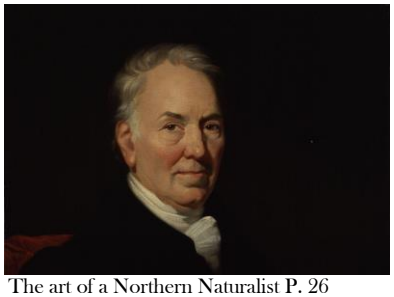

Blackthorn Sawfly larvae P. 6


What is a wood? P. 9


Fallow deer rut P. 13


Beth Chatto gardens P. 15


Pembrokeshire Hedgebanks P. 19


The art of a Northern Naturalist P. 26

Notes for Contributors

The Editor is always glad to receive articles, photographs or drawings for inclusion in the magazine. Contributors are reminded that:
(1) Manuscripts should be submitted as a word document by email with accompanying photos and drawings as separate jpeg attachments;
(2) Common names should be capitalised and should include taxonomic names in italics;
(3) British Naturalists' Association (BNA) reserve the right to publish any contribution or part thereof received on its website;
(4) BNA reserve the right to edit and lay out an article in the style adopted in Country-Side.
(5) Visit the Publications page on the website for notes on submitting articles.

Please note that Copy for future issues of Country-Side should be sent to the Editor. Each contribution is accepted on the understanding that it is original and unpublished and will be in no way whatsoever a violation or infringement of any existing copyright or licence, that it contains nothing libellous and that all statements contained therein purporting to be fact are true and that any recipes or formulae or instructions contained therein are not injurious to the user. While every care is taken with submitted material, neither the publisher, nor the printer, nor BNA can be responsible for loss or damage, however caused. The opinions expressed in editorial material do not necessarily represent the views of the BNA and the opinions expressed by the contributors are not necessarily those of either the publisher, the Editor, the sub-Editor, the Book Reviews Editor or the BNA.

Copy may be emailed to country-side@bna-naturalists.org
Copy date for next issue: September 15th 2025

Editorial

Pauline Rutherford

As we head through 2025 at what seems to be an alarming rate, I wonder how out native flora and fauna are coping? There is much research done on the changing climate and its effect on nature from damage caused by excessive heat or flooding not just in the UK but worldwide. Studies over many years are showing how nature is "out of sync" with warmer winters increasing survival rates for many species, but this also puts pressure on the available food source for the spring time; and often on native flora in UK. Our breeding birds such as waders are at risk from summer flooding which destroys breeding and nesting sites. Elsewhere, mountain top regions rely on alpine conditions to survive, but again the warm winters mean less snow. We, as naturalists, can only do so much and it is up to the scientists and conservation bodies to continue researching this problem and hopefully come up with solutions.

Thank you to those members who submitted observations and to David C. Wareham and Mike Higgins for their follow-up articles. Thanks also go to Chris Gibson, Ian Rotherham Steven Rutherford and Nigel Woodall for their natural history articles.

Natural History Observations

Bird Watching in the Garden

Kenneth Biggins MBNA

Nature is so difficult to predict sometimes, especially now with such erratic weather because of climate change. However, this also makes nature study even more fascinating.

I have taken part in the RSPB Birdwatch for several years with varied results, and the past two years have been particularly disappointing – in 2024 bird numbers, both individuals and species, were poor, and in 2023 I didn't even bother to submit my results. Enter 2025 and it is such a different picture. In the allotted hour I recorded 13 species of bird.

The star of the show was a female Blackcap (*Sylvia atricapilla*) who has been a regular visitor for several weeks. When I was younger, a winter Blackcap would be a very rare sight indeed, but in the past 30 years or so, their numbers in winter have increased enormously. It is a similar story for the Chiffchaff (*Phylloscopus collybita*) whose winter numbers are slowly increasing. One can only guess what other species global warming will bring to our shores.

Female Blackcap on a feeder. © K. Biggins

Male and female Eurasian Blackcaps differ in colour with the male having the distinctive black cap (see photo below) which gives the bird its common name.

Information from British Trust for Ornithology (BTO) show in recent decades, there has been a rapid increase in the numbers of Blackcaps wintering in Britain and Ireland, with most of these birds benefiting from the supplementary food being provided in gardens. Recent work has shown that these wintering birds are not British and Irish breeding birds, but are birds from the central European breeding population that have adapted their normal migratory strategy to use new wintering areas (migration in Blackcaps has a strong genetic component) in Britain and Ireland. The decision not to travel south across the Sahara Desert may have some clear benefits, boosting overwinter survival and leading to an increase in breeding success.

A fact file can be downloaded on this link:
https://www.bto.org/sites/default/files/u23/downloads/pdfs/factsheet_blaca.pdf

Male Blackcap © K. Biggins

Wet Woodland Fly

Steven Rutherford FBNA

In 2024 I made two records of the Long-legged Fly, *Argyra diaphana* in wet woodlands at two nature reserves, Ynys-Hir in Mid Wales and Knettishall Heath in Suffolk. When looking at the records on National Biodiversity Network (NBN Atlas) it shows only 391 national records. This attractive fly, with iridescent green thorax and powder blue abdomen, is quite small (body length 7-8mm) and so could have been overlooked. It is also associated with wet woodland habitats making searches, and therefore recording, difficult.

Wet woodland is a UK Biodiversity Action Plan Priority Habitat and supports a diverse assemblage of invertebrate species (Buglife) as well as two red data list birds – Lesser-spotted Woodpecker and Willow Tit. This habitat is of interest to the naturalist, but it can be difficult to sell that idea of its importance to the public because of its natural untidiness. However, the amount of wet soil and dead wood make this habitat attractive to a large and diverse range of invertebrate. The Joint Nature Conservation Committee (JNCC) gives a crude estimate of the total wet woodland area in the UK of 50,000–70,000ha and even small areas could hold important abundance of these insects.

Long-legged Fly, *Argyra diaphana* seen in the Brecklands September 2024

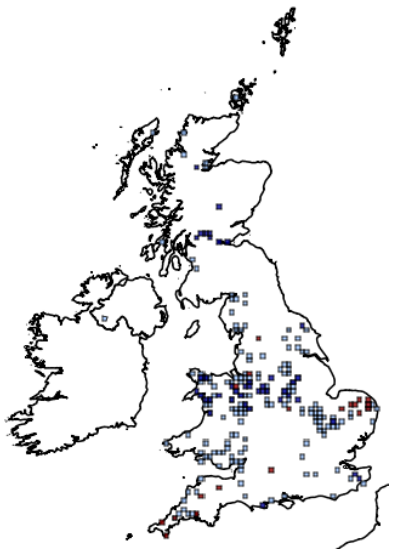
Long-legged Fly seen in mid-Wales June 2024

References

NBN Atlas: NBN Atlas - UK's largest collection of biodiversity information

JNCC https://data.jncc.gov.uk/data/2829ce47-1ca5-41e7-bc1a-871c1cc0b3ae/UKBAP-BAPHabitats-64-WetWoodland.pdf

Buglife https://cdn.buglife.org.uk/2019/06/Notableinvertebratesassociatedwithwetwoodland.pdf



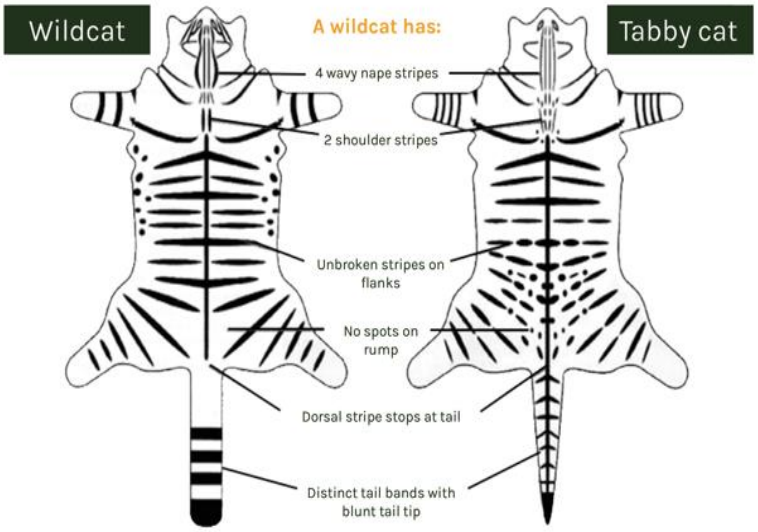
Argyra diaphana distribution map
Credit: NBN Atlas

Wet woodland in the Brecklands
Photos: S. Rutherford

Wildcat Sighting in Cairngorm National Park

Rachel and Kevin Hinchcliffe MBNA

Figure 1. Hybrid Wildcat Photo: Andrew Moore



Pelage Character	Score 1	2	3
1: Extent of dorsal line	Absent/cover entire tails	Continues onto tail	Stops at base of tail
2: Shape of tail tip	Tapered to a point	Intermediate	Blunt
3: Distinctiveness of tail bands	Absent/joined by a dorsal line	Indistinct or fused	Distinct
4: Broken stripes on flanks and rump	>50% broken/no marking	25-50% broken	<25% broken
5: Spots on flanks and rump	Many/no marking	Some	None
6: Stripes on nape	Thin/no stripes	Intermediate	4 thick stripes
7: Stripes on shoulder	Indistinct/no stripes	Intermediate	2 thick stripes

Final Score

21-17 = Wildcat **11-16** = Probable hybrid **10 and below** = low-scoring hybrid / tabby cat

Figure 2. Pelage Scoring Chart

In September 2024 whilst visiting the Cairngorms National Park, we stayed in a cottage in Newtonmore, the home of the Scottish Wildcat Centre. During the holiday, we didn't expect to see Wildcat *Felis silvestris* as they are rare and secretive, but we set up the trail camera in the garden of the cottage which captured footage of a cat that resembled one. We were also lucky to get sightings of the cat during the day (figure 1), allowing us to get some great photos of it to help us do its pelage score.

Pelage scoring (figure 2) is looking at a cat's distinguishing marks - seven features are scored out of three, which helps the identifier to tell the difference between a Wildcat, a tabby domestic cat, and a hybrid of the two. Not being exactly sure of what we were looking for, we scored it quite low - giving us a result of a hybrid Wildcat. For confirmation, we sent photos and information off to the Royal Zoological Society of Scotland (RZSS) to see what they said, and they confirmed it was a hybrid Wildcat.

In March 2025, we were once again visiting the Cairngorms National Park, this time staying near Kincraig. At the side of our cottage was a farm track leading to the fields, which ran right past our living room window. Looking out onto the track, we noticed there was an area of soft mud covered with various paw prints. On closer inspection of this area, we identified Deer tracks, Badger prints, and a smaller one that we thought looked cat like. We decided this would be the perfect spot to set up the camera trap.

On our first evening as we explored the garden with our thermal camera, it revealed something down the driveway that we believed was either a Badger or Fox. (The camera trap did capture a Badger a couple of nights later). We also picked up a herd of Red Deer in the field next to us, something we wouldn't have known without the thermal camera.

Checking the camera trap that first morning there, revealed footage of a cat (figure 3) coming down the track, stopping to look up and check out our camera. What we noticed straight away was its tail - a blunt black tip, with distinct black rings. We did a pelage score,

moving and pausing the video to try and check out its markings the best that we could. We scored it at 18 – which was a true Wildcat. We didn't really need to do its pelage scoring at all, as also noticeable on the video - the cat was wearing a GPS tracking collar (figure 4). Surely this was all the proof that we needed to confirm that we'd finally caught a true Wildcat, but doing its score certainly did.

Figure 3. True Wildcat caught on the trail camera
Photo: K. Hinchcliffe

The video and sight details were sent off to the RZSS, and also recorded on iRecord too. A reply from the RZSS confirmed we had captured one of the released Wildcats, believed to be a male known as Randal, released in 2023.

Figure 5. Wildcat Kittens © Saving Wildcats

Background information on the project

In 2023 19 Wildcats, bred at the Highland Wildlife Park, Newtonmore, were released into the Cairngorm National Park. Of those 19, sixteen are still monitored, two (a male and a female) have not been recorded and may have dispersed out of range. One died five weeks after the release, post mortem results showed an infection was the cause.

In May 2024 it was confirmed via trail cameras monitored by the Saving Wildcats team, images of the first two Wildcat kittens (figure 5) born in the wild.

During 2024 a further 9 Wildcats were released, with more releases planned for 2025.

Figure 4. GPS collar

References

Royal Zoological Society of Scotland https://www.rzss.org.uk/

Saving Wildcats https://www.savingWildcats.org.uk/news-events/2024/june/Wildcat-wrap-up-one-year-on-from-the-first-Wildcat-releases-in-scotland/

Wildcat Centre https://Wildcatcentre.org/

Saving Wildcats #SWAforLIFE

"Wildcats restored to landscapes across Scotland, cherished by people for generations to come"

https://savingwildcats.org.uk/

THE ROYAL ZOOLOGICAL SOCIETY OF SCOTLAND

Highland Wildlife Park,

Kincraig, Kingussie, Inverness-shire PH21 1NL

Notes on the larval stage of the Blackthorn Sawfly *Pareophora pruni.*

David C. Wareham FBNA

In June of 2021, I discovered several larvae of the sawfly, *Pareophora pruni*, feeding on the leaves of Blackthorn *Prunus spinosa* on the cliffs above the beach at Bournemouth (Country-Side: Vol 36, No 8, pp 17-18). There are some 537 species of sawfly in the British Isles. They are mostly wasp-like insects that are in the suborder Symphyta which, together with the wasps, bees and ants, are within the order Hymenoptera. The common name 'sawfly' originates from the slender, saw-like appearance of the ovipositors of the females, which they use to make accurate incisions or slits into the foodplant's tissue to deposit their eggs. Although *P. pruni* is widespread across Europe it is rare in the British Isles with only eleven previous records, and this Bournemouth colony was confirmed by the Dorset Environmental Records Centre as being the first record of its occurrence in the county.

Blackthorn on Bournemouth clifftop

Were these larvae just an odd few on an isolated Blackthorn bush or were the insects inhabiting a wider area along the cliff top? I decided I would attempt to ascertain the extent of the colony and, at the same time, take the opportunity to study the larvae in more detail. Unfortunately, circumstances the following year prevented me from devoting adequate time to the project but, early in 2023, I made preparations by gathering some items of equipment in the form of some plastic containers of various sizes, a pair of tweezers, a watchmaker's eyeglass, and a fine sable-haired brush.

On the 20 May I visited the site and collected six small sample sprigs (fig 1) of Blackthorn taken at intervals over a one-kilometre stretch of cliff-top. Upon returning home, I placed each sample in a plastic container and carefully examined each sprig leaf by leaf with a watchmaker's eyeglass. No larvae were found. It must be noted that the larvae of *P. pruni* are exceptionally difficult to find amongst Blackthorn foliage, their colour and barbs rendering them virtually invisible, as they blend remarkably well with the reticulated veinlets of the leaves upon which they feed (fig 2). 24 hours later and accumulations of tiny frass were visible on the bottoms of four of the containers, evidence that something was feeding. A further close examination of each of the samples revealed a total of 12 recently hatched larvae.

On hatching from its egg, the larva is three to four millimetres in length. Green in colour, it has rows of short bifurcated spiny barbs or thorns along its body. These thorns appear whitish but when examined closely are translucent and somewhat reminiscent of the glass-like silica spicules of the deep-sea Hexactinellid sponges.

Fig 1. Six small samples were taken from a one-kilometre stretch of cliff-top

Fig 2. The larvae blend in well with the reticulated veinlets of the leaves

Fig 3. In the fork between the branches of each thorn is a hollow tube

Fig 4. The larvae appear to be completely innocuous

In the fork between the two branches of each thorn is a small hollow tube (fig 3) which may perhaps be used to exude defence chemicals. Many butterfly and moth species have such spiny hollow barbs and hairs, called urticating setae, which are connected to poison glands at their base, and utilise these as defence devices to discourage predators. Pressure on the barbs releases a poison which birds and small animals find distasteful causing them to avoid the larvae in future. In humans, touching the barbs of some species can result in a wide range of symptoms ranging from mild irritation to intense pain, swelling, tissue damage and, in some cases, even death.

The larvae of some sawfly species will frequently twist themselves into an S-shape when threatened, this resistance position, together with their chemical defences, help them evade predators. Picking up one of the larger larvae, by encouraging it to transfer itself from a leaf onto the hairs of a fine sable watercolour brush carefully rolled beneath it, I placed it on a thin sheet of blotting paper and gently prodded and stroked it with the brush but there was no reaction from the larva. It didn't contort its shape but remained flat, straight and motionless. Neither was there any sign of wetness on the blotting paper, and I could not detect any odour on the brush or emanating from the larva. I also allowed it to walk about on, and held it against, the skin of my wrist but had no subsequent rash, irritation, or allergic reaction. The larvae might well be toxic and dangerous to other invertebrates, small animals, and possibly children but for adult humans at least, they would appear to be completely innocuous (fig 4).

Fig 5. The young larvae leave transparent patterns on the surface of the leaves

Fig 6. Following its penultimate moult the larva is devoid of its thorns apart from a few on its posterior segments

Fig 7. The larva's cast-off skin on a leaf

Fig 8. The brown silken cocoon is wrapped in one or two leaves

Fig 9. Some larvae build sturdy cases out of sand grains in which to pupate

Several sawfly species have larvae which choose to feed together on their foodplants, and this strength-in-numbers adaptation can also afford them protection against their many predators. The larvae of *P. pruni* however, seem to prefer to feed separately from one another and not in groups. At first, the larva browses on the leaf, leaving transparent patterns on its surface (fig 5). As the larva grows it begins to eat the whole of the leaf. Feeding is done under the cover of darkness, each larva, lying motionless along the spine of the leaf during the day. At the end of 21 days the larva has doubled its length to six to eight millimetres.

At this point it undergoes its penultimate moult, after which it looks like a completely different species – smooth-bodied without any of the bifurcated thorns except for a dozen or so small spines on the posterior three or four segments (fig 6). Its cast-off skin is discarded on a leaf (fig 7) like a crumpled jumper on the back of a chair. Feeding ceases now and the larva searches restlessly for a suitable place to pupate.

Depending on the species, sawfly larvae pupate in different ways. Some do so in bark, some in cavities in the soil, and others in cocoons spun between leaves. Blackthorn loses its leaves in the winter so any cocoons made in them will eventually fall to the ground. To investigate pupation in this species, I obtained several containers and put a shallow substrate of white sand (the sort normally produced for reptile vivaria) on the bottom of each. I placed one or two small Blackthorn twigs on the sand in each container.

Of the 12 study larvae, five wove brown silken cocoons inside one or two leaves (fig 8). The remaining seven study larvae, despite having plenty of suitable leaves, moved down to the bottom of their containers and constructed sturdy cases out of the sand substrate and which they attached to the twigs (fig 9). At the end of 30 days all the larvae had pupated.

Whilst engaged in my month-long study, fresh cuttings had to be obtained periodically for the larvae, as the leaves on the old ones were either eaten or dried out and, on almost every new sprig I collected, a further two or three larvae were found.

Summing up, the Bournemouth clifftop colony of Blackthorn Sawfly would appear to be thriving at the moment but could be at risk not only from over-zealous Council workers with their strimmer's and hedge cutters, but also from the feral goats, introduced on the cliffs there in 2009 as part of a funded Environmental Stewardship Agreement with Natural England, to graze back invasive plant species and thereby improve the habitat for native plants and animals.

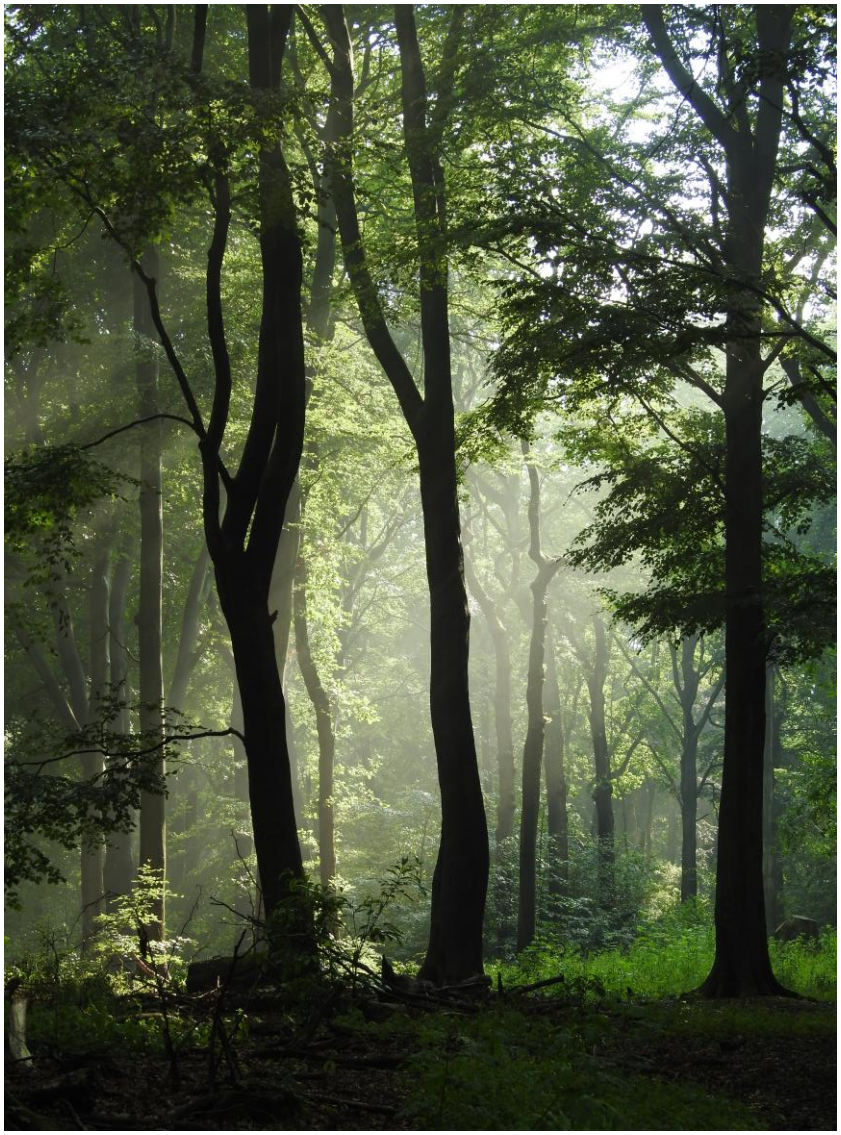
David C. Wareham FRES, FRGS, FLS and was awarded FBNA in 2022.
A naturalist and writer, he has an avid interest in all living things. But he is best known for his work with reptiles and amphibians, of which he has written numerous articles and several books on the subject. In July 2024 he wrote *How to Begin the Study of Reptiles* in the HTBTSO Series published by the BNA.

All photos: David C. Wareham

What is a Wood?

Ian D. Rotherham

Trees, woodlands, and woods are very much in the news as solutions to everything from slowing the flow of floodwaters, to mitigating climate change impacts through carbon capture, and increasing environmental resilience to environmental changes. However, when discussions about treescapes take place and they are considered in policies or in the media, there is little attention paid to detail in terms of the different types of tree-dominated landscapes. Yet the implications of the specific treescape can be radically different in terms of their environmental impacts but also with regard to the potential intrinsic vulnerability. The latter relates to their history, heritage, and archaeology, and associated with or even dependent on these, their soils and biodiversity. Therefore, with so much in the media about planting woods and trees, it is worth asking some key questions and maybe sorting out definitions of what a wood really is. Only then can we genuinely assess and evaluate some of the major and pressing environmental issues of our times.



Moss Valley ancient woodland

A preamble to this is that across England at least, observations suggest very strongly that despite the widely-read works of ancient woodland pioneer, the late Professor Oliver Rackham, few woods are managed to conserve their heritage. This is both remarkable and sad, since the work of historians such as Oliver and Sheffield's own the late Professor Melvyn Jones demonstrated the unique cultural heritage of former medieval woods. Moreover, studies by scholars like George Peterken, Keith Kirby, Tom Williamson, and even myself, demonstrate connections between history and site ecology or biodiversity. Mixing human history and nature, these landscapes are what I describe as 'eco-cultural' with human impact acting on sites and soils over many centuries to influence trees and other biodiversity. Indeed, this is what make an ancient wood different and distinctive from all other treescapes. These sites have continuity and connectivity over many centuries whilst at the same time being dynamic living entities. A consequence of this unique lineage is that they are specific to a place and are absolutely irreplaceable. There is a further complication however, that once part of the human cultural landscape, the working countryside, these treescapes have experienced 'cultural severance' with ending of traditional and subsistence usage, largely since the 1800s. This change from 'working woods' to 'amenity woods', or else 'leisurely landscapes', has implications for their sustainability and for how we perceive them. Most woods today are viewed by people as 'natural' or 'wild', which they are not.

Since the pioneering work of Rackham and Peterken in the 1970s and 1980s, followed by a body of other scholars locally and nationally, there was an awakening of consciousness about the special values of 'ancient woods'. Through this work and associated discussions, there was a growing understanding of the specific issues, histories, and ecologies of ancient woods framed in more intimate detail. Indeed, because of this it is now possible to place the ancient woods more roundly in their ecological and historical context. Nevertheless, there is now a further complication is the apparently rapid loss of cultural and professional knowledge as a generation of researchers and professionals has retired or otherwise been lost. Newly-emerging professionals as site managers for conservation bodies have often missed out on the discussions described above, have limited relevant training from college or university, and increasingly rely on contemporary social media sources for information and awareness-raising. This loss of corporate and professional memory is not a totally new phenomenon and indeed has been documented previously. Woods in Sheffield for example, were traditionally managed for charcoal burning from medieval times up to the 1900s, but by the 1960s, were believed to be two-hundred-year-old plantations. However, the implications of the current changes are that site managers frequently have limited experience of woodland management and often no awareness of history, heritage, and sensitivity. This is a recipe for very damaging operations in some of our most precious conservation sites.

Veteran Oak Chatsworth Park, Derbyshire

Ancient Oak Tree, Whitwell Wood, Derbyshire

Treescapes: woods, woodlands, plantations, and forests

To understand an ancient wood, we firstly need to examine the term 'wood', and this is in the context of treescapes or woodlands that include diverse sites and types of ecological systems. When establishing conservation and management priorities, it is important to understand the types of natural, semi-natural, or eco-cultural woodlands and how they differ from merely planted trees. Basically, plantations are as they imply, sites where trees have been deliberately planted and in Britain

and Europe, this practice was not commonplace before around 1600 to 1700 AD. It creates 'plantations' and these may be onto a previously non-woodland site or into and perhaps replacing existing woodland. (In England the latter are sometimes called PAWS or 'Planted Ancient Woodland Sites'). Originating in continental Europe in the eighteenth century, 'forestry' is the science and practice of establishing and managing such plantations and is totally separate from the term 'forest'. Confusingly, this word may mean either a naturally-occurring (but often managed) treescape or else is an area of land over which medieval forest laws applied. In the latter cases, these were largely hunting lands and might (though not always) be relatively open land and free of trees or at least of closed-canopy woodland. The medieval forests were wood-pastures related to medieval deer parks, medieval chases, and often neglected, wooded commons, as places that mixed production of timber, wood, and use by grazing animals. The modern scientific 'forestry' is very different from the cultural traditions of 'woodmanship' as practiced by rural craftworkers for centuries.

Different from a plantation is a 'wood', which in England at least, is generally an area of treescape enclosed (or protected) by a bank and ditch with a wall, hedge, paling, fence, or dead-hedge, and then named within the manorial estate. Such woods had trees encircled by a boundary to exclude grazing livestock and within this enclosure there was management for timber (cut maybe every 80 to 120 years), and underwood or coppice (cut every 10 to 25 years). These sites were mostly established during the period of two to three centuries after the Norman Conquest (1066) the changes being apparent from reading the Domesday account (1086) and considering the countryside before and after that time. Prior to Domesday most woodland in the English countryside was open wood-pasture with little enclosed coppice wood. It is also believed that some early 'woods' were only temporarily protected by short-term dead-hedges to allow young coppice to 'spring' or 'sprout' from the cut stools. Probably over time and as systems of management became more sophisticated, sites were protected by more permanent barriers. Such 'woods' were either coppice-with-standards (underwood and timber trees) or simple coppice (i.e. lacking the standard timber trees). Whilst most resulting 'ancient woods' were Norman or post-Norman in origin, some were established in the Saxon countryside. Coppicing undoubtedly occurred in the earlier landscape, even in prehistoric times (perhaps with people copying the natural coppicing of native beavers and of some trees like lime and willow), but this was in extensive treescapes and not in designated protected sites. The Romans certainly coppiced woods more formally but whether this extended into and through the post-Roman period is uncertain. Indeed, the balance between managed coppice woods and multi-functional wood-pastures often reflects the extent of the landscape resource and the size of the human population dependent on it. Before Domesday, the English population was relatively sparce in an extensive wood-pasture dominated countryside which was relatively resource-rich. After Domesday, the population rose rapidly during the subsequent centuries and the woodland resource, essential for survival in a pre-petrochemical world, became increasingly scarce. Protection by enclosure with regular coppice and timber cycles helped ensure sustainable supplies of vital materials at the parish or manorial level. From Domesday onwards, if the wood survived and was used, then this management often continued over many centuries and sometimes into the nineteenth or twentieth century. At this time, many traditional woods were lost to urban development or farming, converted to high forest plantations, or simply abandoned.

In terms of heritage and archaeological interest, this longevity of history is important. Within a formally coppiced wood there will be evidence of human activities and even settlement in terms of internal and external ditches and banks and associated walls. The working coppice wood will have hut bases from woodland workers, and earthworks associated with cutting, processing, and storing of timber and underwood, and often multi-stemmed remnants from former coppice trees. (Some woodland oaks in the latter category may be 800 to 1,000 years old, and in the case of lime trees, much older). There may also be remains from pre-woodland activities including Romano-British walls and earthworks, Romano-British villas, trackways and other features, such as prehistoric fields, buildings and enclosures, marked stones, and much more. A key point in all of this is that the remains and the evidence of past occupation and usage are made up of earth, stones, and rocks, with soils and sediments, and associated ecology. As such the heritage is exceedingly vulnerable and indeed, it has largely been removed from the countryside beyond the wood. Essentially, what remains in the woods is almost our entire resource of heritage overlain down the centuries as palimpsests in the landscape. Where these working

enclosed 'woods' survive today they are the 'ancient woods'.

As explained above, these 'woods' were mostly but not always, enclosed from some sort of wood-pasture or else from common open fields of the medieval landscape. If they survived the vagaries of history, especially the early industrial period's parliamentary enclosures, and then twentieth-century intensification of agriculture and impacts of private and corporate forestry, then these are our 'ancient woods' today. Their origins are reflected in contemporary ecology and biodiversity, and when you walk through an ancient wood you tread in the footsteps of innumerable ghosts of people that lived and worked there over centuries. Not purely 'natural' but these are 'eco-cultural' landscapes reflecting people, nature, and time.

Because they were enclosed and managed as described, many ancient woods preserved elements of much earlier countryside including evidence of woodland workers and their families over nearly 1,000 years. There may be earth-fast stones, carved Bronze Age boulders (cup-and-ring marked stones), formerly 'worked' now retired 'working trees' such as pollards (high coppice), stubs (on ancient boundaries), and coppices. The sites range from traditionally managed rural woods to intensively managed early industrial woods, the latter often around industrial centres, producing charcoal for metal working and other uses, and sometimes white coal* specifically for lead smelting. The impacts of these sometimes intensive activities vary from site to site and with the longevity and intensity of usage. In woods used to make charcoal and whitecoal, there may be tens or even hundreds of charcoal hearths and so-called Q-pits. These will be close to trackways, building sites, hearths, and processing or storage areas. In some cases, the modern vegetation is totally a reflection of this history of usage, and often in woods used intensively for charcoal manufacture, almost all topsoil was removed. These are examples of the unique, site-specific, timelines of nature and people which have created the so-called palimpsests or multi-layered landscapes of history.

In neighbourhood woods for instance, you can often walk back through landscapes of history perhaps extending over 3,000 years or more. Across the wider countryside, this has long-since been erased by humanity's modern living, making our surviving woods uniquely important cultural heritage and irreplaceable markers of our biodiversity and history. At regional and local levels, the ancient woods frequently have distinctive ecologies and patterns of usage reflecting patterns of human use for local industries and biogeographical influences. This is living history on the doorstep and is why the ancient woods are special and irreplaceable.

***White coal** is a form of fuel produced by drying chopped wood over a fire. It differs from **charcoal** which is carbonised wood. White coal was used in England to melt lead ore from the mid-sixteenth to the late seventeenth centuries. It produces more heat than green wood but less than charcoal and thus prevents the lead evaporating. White coal could be used mixed with charcoal for other industrial uses than lead smelting. White coal was produced in distinctive circular pits with a channel, known as Q-pits. They are frequently found in the woods of South Yorkshire.

Some recommended readings:

Jones, M. 2009. *Sheffield's Woodland Heritage*. 4th Edition, Wildtrack Publishing, Sheffield.

Rackham, O. 1976. *Trees and Woodland in the British Landscape*. J.M. Dent & Sons Ltd, London.

Rackham, O. 1980. *Ancient Woodland: its history, vegetation and uses in England*. Edward Arnold, London.

Rackham, O. 1986. *The History of the Countryside*. Dent, London.

Rotherham, I.D., Jones, M., Smith, L. & Handley, C. (eds) 2008. *The Woodland Heritage Manual: A Guide to Investigating Wooded Landscapes*. Wildtrack Publishing, Sheffield.

Rotherham, I.D. 2021. Challenges for the restoration of cultural values in UK woodlands. *Forest Ecology and Management*. https://doi.org/10.1016/j.foreco.2021.119756

Rotherham, I.D. 2024a. *Issues and problems for the conservation of heritage and archaeology in ancient woods*. In: Rotherham, I.D (ed.) *Woodlands: Ecology, Management and Threats*. Nova Science, New York, 1-34.

Rotherham, I.D., & Moody, J.A. (eds) 2024. *Countryside History. The Life and Legacy of Oliver Rackham*. Pelagic Publishing, London.

Ian Rotherham is Emeritus Professor, The Advanced Wellbeing Research Centre, Sheffield Hallam University, and former Professor of Environmental Geography. Sheffield Hallam University and previously Principal City Ecologist, Sheffield City Council. He is an ecologist and environmental historian with a particular interest in the landscape history of woodlands and other countryside areas. You can email Ian for more information: ianrotherham36@gmail.com
Or contact him via his website: www.ukeconet.org; or his blog: www.ianswalkonthewildside.wordpress.com/; and on Twitter: @IanThewildside

Observations of the Fallow Deer rut

Nigel Woodall

Fallow Deer herd

I watch deer in The Wyre Forest which is situated mainly in Worcestershire and partly in Shropshire. I also watch deer at Attingham Park, Shropshire. The forest is home to a herd of Fallow Deer (*Dama dama*), the last census figure taken in March 2024 was some 473 head. The census was taken prior to fawns being born in the summer months. In recent years populations of Muntjac (*Muntiacus reevesi*) and Roe Deer (*Capreolus capreolus*) have increased: the census figure for Muntjac 2024 was 66 although this is a gross undercount - a drone operator was used a few days after the count and 227 were seen. Roe Deer are increasing but are still a small percentage of the deer population with 29 being seen on the annual count.

Although I spend much of my spare time watching the deer of the Wyre Forest the annual rut is the time I most look forward to. The rut takes place from late September to early November with the main rutting activity taking place in October peaking between 15th and 25th. Bucks herd together for much of the year but during late summer / early autumn they will become more solitary and move from their summer grounds to areas where there will be numerous does. These are often to be found in good feeding areas of acorns and beech mast.

The rutting stands which the bucks will endeavour to occupy are often traditional, having been used for rutting for many years, not necessarily by the same bucks. The bucks may not use just one rutting stand during the season but can move to various others.

I am sure that most people are aware of the belching sound made by the rutting bucks, known as groaning, but in the build up to the rut there are many other stages before the actual mating. I have seen various methods of territory marking or of the bucks wanting to make themselves more "attractive" to the does. For example, they will begin to thrash their antlers and fray bushes and saplings (this behaviour can also be observed when they are trying to rid their protective cover of velvet when their antlers have fully grown and have become hard. Bucks will also mark their territory by using the sub-orbital gland, situated under the eye: the gland is rubbed on a branch or fallen timber to leave a residue which can be scented by other deer. The buck shown in Figure 1 is leaving his scent before smelling it.

Bucks will scrape the ground and urinate in the scrape and then lie in it. They will also urinate on themselves and if you are near a rutting stand you will often smell it from quite a distance away (Fig 2). As well as urinating on themselves - presumably an attractant to the does - bucks will also adorn their antlers with vegetation (Fig 3). Whether they believe this makes their headwear look more impressive, I do not know. Unfortunately, this behaviour has been the demise of some bucks because they have been known to get entangled with rope and electric fence material.

When the buck has marked his territory and has gone through the various stages of having a rutting stand, he can be seen walking around the area groaning in earnest (Fig 4). Prior to the rut the larynx of the buck will enlarge and subsequently the thickness of the neck becomes bigger. When groaning the larynx will drop


Figure 1


Figure 2


Figure 3


Figure 4

approximately 15 cm.

Often this challenging groaning will be ignored by other bucks but on other occasions another buck will accept the challenge and move towards the


Figure 5


Figure 6


Figure 7

groaning buck. When this happens the bucks will often walk parallel to each other (Fig 5). Each will be assessing whether they believe they can win if a fight takes place: sometimes one of the bucks will walk away, in his mind he knows the other buck would win if a fight ensued. If neither buck backs down they will begin to fight. This entails a pushing war, antlers against antlers. The fight can last a few seconds but in an evenly matched pair the fight can last quite some time. I did watch one fight at Attingham Park, Shropshire for over 10 minutes (Fig 6) and on this occasion there was no winner, both bucks began to walk parallel to each other before walking away. On other occasions I have seen the winning buck chase the defeated buck away from his territory. During some fights it has been known for bucks' antlers to become entwined, sadly often leading to the demise of both deer.

Once the buck is the master of the rutting stand he will visit various does and if they are lying down he will nudge them to stand. He will sniff and lick around the doe's anal area, curling back his upper lips in what is known as Flehmen response, in order to pass the pheromone laden aroma through the vomeronasal organ in the roof of his mouth.

I have not been able to photograph this behaviour in Fallow Deer: the illustration is of a Red Deer stag (*Cervus elaphus*) (fig 7). If the doe is found to be in oestrus copulation may occur. I have only witnessed copulation once in the time that I have watched Fallow Deer. This was over 40 years ago at an annual event organised by The Wyre Forest Society, with attendees sitting in various high seats situated throughout the forest. I was the only lucky person to witness copulation. Coincidently later in the same week I was able to witness Red Deer mating in Scotland: again it was to be the first and last time I would witness the event.

Much of my photography was done at Attingham park where the deer are used to seeing people and it does not disturb their mating ritual.

Reading list

1 - Chapman, Donald and Norma. (1975 and 1997) *Fallow Deer.* Coch-y-Bonddu Books.

2 - Bradley, C. (1996) *The Realm of Fallow Buck.* Christopher Bradley.

3 - Lewis-Stempel, J. (2024) *Natural History of England.* Doubleday.

Nigel Woodall joined the BNA in 2024 and has been a keen deer watcher for many years.

Beth Chatto's Gardens – the incidental nature reserve

Dr Chris Gibson FBNA

Beth Chatto's Gardens

Situated in Elmstead Market, just east of Colchester, the Beth Chatto Gardens are internationally renowned in horticultural circles, and a place I am privileged to be able to visit and show people around very regularly, looking not only at the plants but especially at the insects, birds and other wildlife with which we share the gardens.

Beth Chatto sadly died seven years ago, but she left a wonderful legacy to the world in the form of the Beth Chatto Gardens. Beth was a *tour de force* in the horticultural world, a lover of prize and special plants, an artist who painted with flowers, and a true visionary. She established the gardens with her husband Andrew from an orchard and some damp fields running down to a flowing brook, a tributary of the Tenpenny Brook that runs into the Colne Estuary.

The differing soil conditions across the site to some would have been seen as constraints but Beth and Andrew saw them as opportunities, the chance to create an ecological garden like no other. From the outset they worked to the principle of 'Right Plant, Right Place'. This works in so many ways. Beth's artistic inclinations meant he knew the right plant to put in the right place to maximum visual effect. But this also works in terms of the plants' own needs: put the plant in the conditions it likes or would experience naturally and the less you must do to make it thrive. In this, Andrew was instrumental as an ecologist with knowledge and experience of plants growing wild around the world.

And now we are privileged to reap the fruits of this thinking. Gardens of different types according to conditions: sunny and south facing on rich soil; damp and semi-shaded around the waterbodies; a woodland garden, especially vibrant in spring; a scree garden mimicking the ground conditions on mountains; and most famously the dry Gravel Garden...

Beth was ahead of her time. She, gardening in the driest part of the country (with an annual average rainfall similar to that of Barcelona) in a partly droughty site, was aware of the challenges of gardening in such conditions. Some would have simply resorted to the hosepipe, with repercussions for other things that need water: wildlife, crops and of course us! Over the past sixty years we have become all too aware of the criticality of water supply to all users, exacerbated by climate change. But Beth and Andrew saw it as an opportunity to explore the wonderful world of plants from somewhat warmer and drier regions of the world, particularly the Mediterranean and places with a Mediterranean climate, such as California, Chile and South Africa.

On the highest, driest, sandiest part of the garden (the old car park) the Gravel Garden was born. The right, drought-tolerant plants for the place were drafted in, planted in prepared ground, and given a bucket of water, before being heavily mulched with gravel to retain water. And that's it, no more water except when it rains. Barely anything dies even in the most severe droughts. It is a garden that sits lightly on the planet, looks amazing AND is wonderful for native insects of all sorts, throughout most of the year. There is barely a native plant to be seen, which just goes to show that 'wildlife gardening' does not have to go down the 'worthy but dull' approach of using only native plants in trying to create a pastiche of natural habitats in a garden context.

Adopting the principle of Right Plant, Right Place is as simple an approach to, and definition of sustainability as there is (invented before 'sustainability' was ever heard of). Put any plant


The gravel garden


The reservoir garden


The woodland garden

where it wants to be, and the less you have to give it in terms of water, fertiliser, pesticide, money and effort...leaving more time to enjoy the plant and all it attracts to the garden.

More recently the garden has adopted the strapline 'the home of ecological and sustainable plants and gardens...'. This is embracing and extending Right Plant, Right Place into all branches of sustainability, such that now we (both garden and nursery) are water efficient, pesticide-free, peat-free, fertilizer-reduced, and single-use plastic getting less all the time throughout our operation.

I have been visiting the Beth Chatto Gardens for nearly 40 years, enjoying both the flowers and the things attracted to them. But on one such visit in 2019, Jude and I saw something that really worried us, and seemed at odds with the Gardens' stated ecological principles. In the ponds of the Water Garden there is a stately plant from the swamps of central America called *Thalia dealbata*. Its leaves are dramatic, its scruffy purple flowers less so. But on that visit, we noticed that each flowerhead was actually riddled with corpses – hoverflies, lacewings, bees, wasps and blow flies, amongst others – a glistening mortuary for those valuable garden assistants, pollinators and predators alike, all stuck headfirst into the mouths of their nemesis. The plant has no reason to kill its visitors – it doesn't digest them like a truly carnivorous species: it seems that the flowers have an elastic stye that traps insects by the snout. In its range it is normally pollinated by large and powerful carpenter-bees, capable of extricating themselves from the flower's fatal embrace. Anything smaller is trapped and starves, mere collateral damage, cannon fodder in the battle for life.


The water garden


Thalia leaf with basking Azure Damselfly


Thalia flowers with a selection of victims


Dasycera oliviella Scarce Forest Tubic


Stomorhina lunata Locust Blowfly


Mesosa nebulosa White-clouded Longhorn beetle


Closterotomus trivialis a variable plant bug

When I pointed this out to the garden team, their horror was evident, and action immediate: withdrawn from sale, information about its antisocial habits loaded on the website, and instructions to the garden team to remove the flower spikes as they emerge, so that the leaves can still be enjoyed, by us and the basking damselflies alike!

And then a few weeks later, a phone call out of the blue from Julia, Beth's granddaughter who heads up the gardens, would I like to join the team? A dream come true! My role as Beth Chatto Gardens' Wildlife Advocate was forged, with a remit to enthuse staff and visitors about the wildlife we share the garden with, to advise on enhanced sustainability practices, to compile data about the role of our garden in sustaining biodiversity, and providing advice on how anyone, everyone, can do their bit in their own garden or yard.

Over that past five years, we have been recording wildlife both directly and vicariously through our eyes and ears on the ground, the garden and nursery staff. And as always, if you look hard enough you will find interesting things: a few of many are detailed below. We hope to make our 'bioblitz by-stealth' freely available in due course.

But it is more than just the rarities. It is also a place of bioabundance. Even in the insectageddon that was 2024, it was one (in fact the only) place in Essex I could reliably see insects. Sequential provision of nectar and pollen resources; a diversity of flower forms catering for a diversity of insect forms, right through the year; freedom from the bane of pesticide poisons; space given for breeding and overwintering, in a garden not obsessed with tidiness: all of these

play their part, allowing flowers to support invertebrates to support birds and other vertebrates – the web of life.

Supporting wildlife at every step, arguably improving upon nature by providing resources when the countryside can't in the depths of winter, and with the luxury of three hectares to play with, I think Beth Chatto Gardens now live up to my idea of the Incidental Nature Reserve, and they are somewhere I am proud to be associated with.

Prionus coriarius Tanner Beetle

Prionus coriarius	Tanner Beetle	two sightings; only about four recent records from Essex
Mesosa nebulosa	White-clouded Longhorn beetle	nationally rare, and only the fourth Essex locality in that last hundred years; two records in the last four years
Rhyzobius forestieri:	a small(ish), black(ish), hairy ladybird which flashes bright orange when it flies	new to the UK in 2014, now well known in parts of the far south-west of Essex; first seen with us in 2020
Tasgius morsitans	a large rove beetle	the fourth Essex record
Stomorhina lunata	Locust Blowfly	only the second-ever Essex record of this rare migrant with distinctively striped eyes; may well have come from beyond the shores of Europe – its larvae feed upon the eggs of locusts
Tachina lurida	a bristly moth parasite fly	only four previous Essex records
Myopa testacea	Spring Bee-grabber	just a couple of previous north Essex records
Microtendipes pedellus	a tiny, rather attractive non-biting midge	only two previous Essex locations, neither of which is anywhere nearby
Closterotomus trivialis	a variable plant-bug	first recorded in Britain in London in 2008, it reached us in 2019; previously in Essex only from the London fringes
Dasycera oliviella	Scarce Forest Tubic	an uncommon moth in Essex and the country as a whole; typically, an inhabitant of ancient woodlands

Some of the species found

Further information

The Beth Chatto Gardens website https://www.bethchatto.co.uk/ is full of useful information, especially the A-Z listing of plants offered for sale. Each genus introduction now has a paragraph detailing its value to wildlife in the garden.

My own website

https://www.chrisgibsonwildlife.co.uk/ has a page devoted to all my activities in the gardens: https://www.chrisgibsonwildlife.co.uk/beth-chatto-gardens-activities-and-events/ It includes links to all the 80+ illustrated blogs I have posted about this very special place.

Dr Chris Gibson FBNA is a council member and trustee of BNA, and a past recipient of the David Bellamy Award. After his PhD on Yellow Rattle, he moved into nature conservation, serving 31 years with Natural England and its predecessor bodies. Following early retirement, the Beth Chatto Gardens soon beckoned, along with leading walks and tours, giving talks and writing blogs, articles and books. Around the same time, he was blessed with a granddaughter and now much of his focus is on trying to ensure her world is fit to grow up in.

All photos: Chris Gibson

Translocating Pembrokeshire Hedgebanks on development sites

Michael Higgins FBNA

Introduction

I have been the Pembrokeshire Coast National Park Authority officer dealing with tree and landscape matters for over 16 years. As part of my role, I am consulted on over 200 planning applications a year, many of which have implications for Pembrokeshire Hedgebanks. (This is the final article in a series and follows previously articles published in Country-*Side* - Summer 2022 and Summer 2024)

As discussed in previous articles, hedgebanks are key to Pembrokeshire's landscape character. They have historical significance and are an essential element in the biodiversity and connectivity of the immediate and wider landscape.

Pembrokeshire Hedgebanks are also a key green infrastructure feature. The maintaining and enhancing of green infrastructure is a requirement for all new planning applications under the *Environment (Wales) Act 2016* and *Planning Policy Wales 12 (2024)*

Considering when to translocate Pembrokeshire Hedgebanks

Occasionally in planning schemes it is necessary to remove sections of hedgebank to facilitate the development – perhaps to straighten a section along a road realignment scheme or to make/improve an access into a development site. To comply with Welsh planning policy, it will be necessary to translocate these hedgebank sections within the site. For example, a proposed new opening onto a development site could translocate the hedgebank sections to make access splays rather than completely removing them. Where a scheme proposes translocation, the translocated sections must remain linked, or become linked to existing landscape features (hedges, woodlands, ponds) to maintain and enhance connectivity.

A typical Pembrokeshire hedgebank

Methods of translocating Pembrokeshire Hedgebanks

In Pembrokeshire the two preferred methods of hedgebank translocation are:

- Incremental dragging - This is a process where the hedge is moved as a single linear feature, using incremental movements to shift the position of the hedgebank into the preferred position. This method is most suited to smaller translocations, such as increasing a vision splay by moving the hedgebank back either side of an entrance.
- Sectional translocation - This is where the hedgebank is split into individual sections at suitable points and each section is moved separately from the other sections. This is most appropriate where the hedgebank needs to be moved over a larger area, such as in a road-straightening scheme.
- There is also a 'lift and rebuild' method; however, this is generally inappropriate in Pembrokeshire as it could destroy and/or irreparably damage the stonework, structure and the intrinsic value of the bank, or the historic structure of the hedgebank.

The translocation process

Prior to any translocation works being carried out, it is essential that a full method statement is produced to cover the

'before, during and after' of the process under the following headings:

I. Pre-commencement desktop survey
II. Pre-commencement site survey
III. Pre-commencement site preparation
IV. Translocation method
V. Immediate post-translocation works
VI. Post-translocation works

The purpose of the method statement is to allow the local planning authority to ensure that the works will be carried out methodically, and to show that the translocation will result in a net benefit to biodiversity (NBB) of the site.

The time of year is important when translocating hedgebanks: -

Autumn (September – November) is the best time, because the warmer soil and likely rainfall will encourage some new root growth before dormancy and less management (watering) will be required.

Winter (November – February) is acceptable; however, translocations can fail because root growth is limited by dormancy and low soil temperatures.

Spring (February - May) translocations should be avoided because there may be insufficient time for new root growth before the stresses of summer.

Summer (May - August) translocations should also be avoided because this is the peak growing season where roots are active, and a ready supply of water is essential.

As such, translocation must be timed to ensure that there is a reasonable chance of survival.

August – November: Optimum time for work – **Preferable** - Relatively low risk of failure.

November – February: Plants dormant - **Acceptable** – Limited risk of failure.

February – May: ceasing to be dormant, but not fully active - **Avoid** - Risk of failure.

May - August: Plants actively growing – **Avoid** - Highest risk of failure.

I. Pre-commencement desktop survey

Prior to any ground works being carried out, an initial desktop investigation needs to be completed considering any legislative matters:

- Check whether the feature is historically or archaeologically significant via:
  Heneb (Dyfed Archaeological Trust): https://heneb.org.uk/
- The online Tithe map records: https://places.library.wales/
- Check whether the translocation requires planning permission by contacting the local planning authority for more information.
- A hedgerows removal notice under The Hedgerows Regulations 1997 may also be required it the works are not part of an extant planning permission, and this can also be discussed with the local planning authority.

II. Pre-commencement site survey

Once the initial desktop survey is complete, it is necessary to carry out a site survey to record the hedgebank. This will include details such as:

- A physical record of the hedgebank, using photographs to record the extant stone structure.
- Measurements of the hedgebank including:
  - Height vertically
  - Width at base
  - Width at apex
- A hedgebank survey carried out to record the woody and non-woody features. This is also beneficial in ensuring that any supplemental planting is in keeping with the existing hedgerow.
- A record of any likely management of any hedgerow on the apex of the bank that will be required as some woody specimens may require coppicing (to minimise leverage), pruning back lateral branch spread to allow access during the works, or clearing the faces of the hedgebanks to show the stonework more clearly - this should be carried out carefully by hand without removing/uprooting any species.
- Recording any significant features along the hedgebank such as veteran trees or historic/archaeological features.
- Any other potential constraints on the translocation, such as existing fencing alongside the hedgebank water points, access routes and gateways.

III. Pre-commencement site preparation

Once any constraints on the translocation have been resolved, the hedgebank and surrounding landscape can be prepared.

Installation of protective measures

Protective barriers should be installed around retained areas of adjacent landscaping to prevent damage from machinery during the translocation. These can be erected based on industry

guidance such as BS5837:2012 and with a minimum buffer zone of 2 metres from the base (see note 1).

Managing the hedge

Depending on the location of the hedgebank, there will be different woody species present, requiring different approaches.

Where there are no large trees present, the vegetation can be cut back/coppiced to a height of 300 - 500 mm immediately prior to translocation, taking care to carry out the work during the dormant growing season, and not in the bird-nesting season unless immediately following a habitat survey to confirm that the works will cause minimal disturbance. Any fauna observed should be left undisturbed and advice sought from an ecologist before commencing work.

The preparation works are to be carried out using hand tools such as hedge trimmers and chainsaws. Flails are to be avoided to help minimise the stresses that will be inflicted on the woody specimens and preserve the hedgerow's aesthetic qualities.

Where large trees are present, it will be necessary to consider:

1. Their quality in relation to the hedgebank,
2. Whether translocation of that particular section is justified (referring to industry guidance – see note 2)
3. Whether the development proposal requires amendment to retain the tree/hedgebank section.

Where a larger tree is identified as being suitable for translocation within the hedgebank, consideration will need to be given to additional processes and species-specific characteristics, as some species do not respond well to coppicing.

Rackham (1976) notes that species including maple, oak, lime, hazel, ash, wych-elm, alder and hornbeam respond well to coppicing, and aspen, elms and cherry tend to sucker. Where species sucker, the stump may die, but the root system within the hedgebank being translocated is likely to remain viable and send up new growth. Where these species are suitably translocated there is a likelihood of successful recovery in the medium to long term.

Excavation may be required to preserve the root area of the specimen tree; it may be necessary to divide the hedgebank into sections, dealing with the sections either side of the tree first and then tackling the tree individually. The presence of an ancient or veteran tree (Figure 1) would likely prevent translocation, as disturbance through direct translocation, or indirectly through ground disturbance, is likely to be detrimental to the health and stability of this irreplaceable feature. In these instances, the veteran tree will need to be protected; whilst the adjacent sections of the hedge are prepared for translocation (Figure 2).

Protecting the hedgebank feature from machinery

Retained sections of hedgebank will need to be protected by suitable fencing in accordance with BS5837:2012. Hedgebank sections proposed for translocation will be left exposed at times, and it is essential that throughout the process care is taken to avoid unintended contact between the machinery, the retained hedgebank sections and associated tree. This can be achieved by ensuring there are defined working areas for the machinery to operate and temporary fencing panels are erected around these sections. These can be removed when access is required for translocating, with the retained areas fencing for the duration.

Preparing the new position

The new location of the hedgebank will need to be marked out and a trench excavated. The trench will be between 300 mm - 700 mm deep and follow the lay of the land: its width will be the same as the base of the hedgebank section being translocated. To ensure consistency, the digger bucket used for this process should be the same as that used for the translocation process.

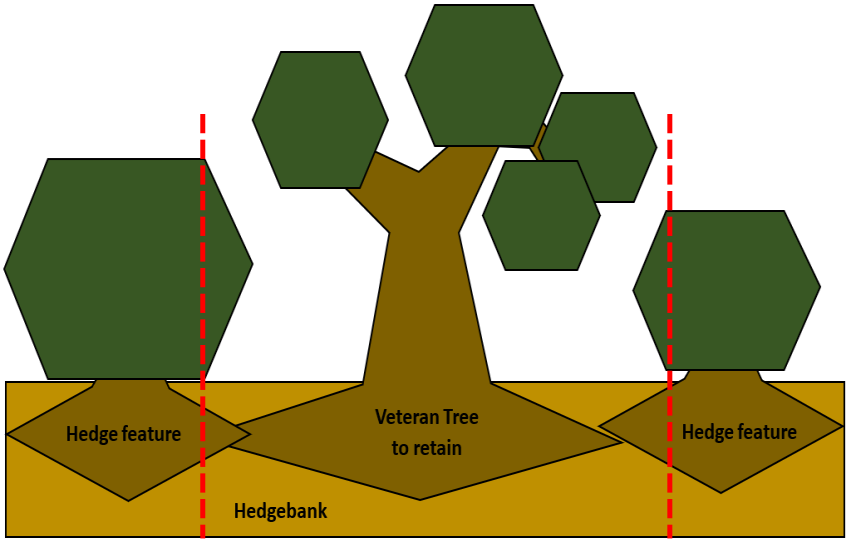


Figure 1. Veteran tree to be retained on hedgebank where adjacent sections are to be translocated

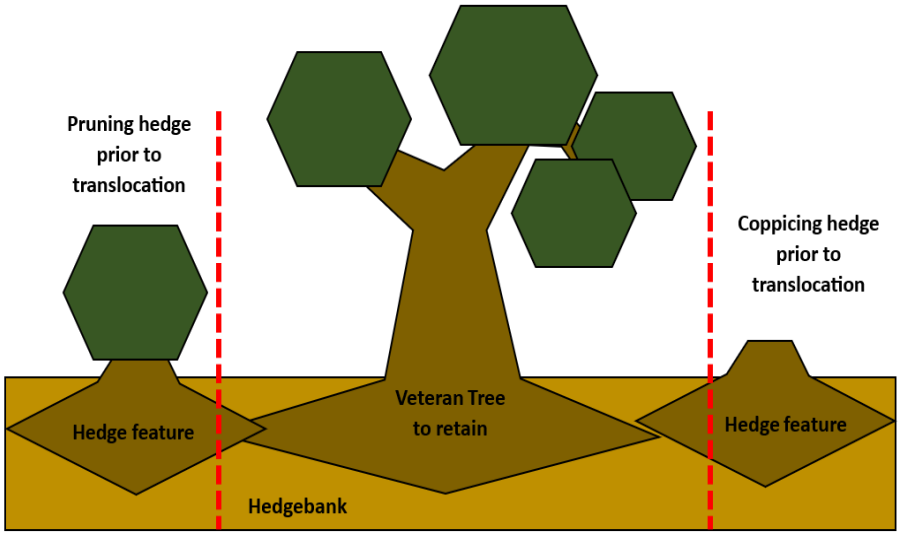


Figure 2. Considering initial management prior to translocation based on existing features. It is more beneficial in terms of biodiversity to prune roots of hedge features rather than roots of veteran trees.

Figure 3. Sectional translocation to widen road
Height difference between field and road required sectional translocation to lift hedgebank
Left image - 2017 - Prior to translocation
Right image – 2024 (Google Street View) showing widened road and relocated hedge

Figure 4. Example of airspade excavation – even fine roots are retained, allowing careful pruning

The base of the trench should be scarified, and where required, the base of the receptor trench can be treated with a slow-release fertiliser and water-retaining gel (see note 3). To prevent the trench drying out, it should be excavated at the same time as the translocation is planned. Where additional soil is required, this should be sourced from the original location to maintain the correct soil components and retain any dormant seed bank within the soil, in order to assist with natural regeneration.

Once all preparation is complete, the translocation should occur as soon as possible.

IV. Translocation method

As mentioned earlier, tor Pembrokeshire Hedgebanks there are two preferred methods for translocation; these are 'sectional translocation' and 'incremental dragging'.

Sectional translocation

This is preferred where the hedgebank is being translocated a distance from the original location – such as across a field to infill an old entrance made redundant by a new entrance or to reposition the boundaries on a large development site, or where there are variations in topography. (Figure 3)

This method uses a digger with a toothed bucket that is as wide as practicable. This will ensure that the hedge undergoes minimal disturbance by reducing the number of sections that are required to be made to move the feature. An elongated blade to the bucket is also desirable, since this will allow the bucket to reach further under the hedgebank and support the section being moved.

The use of compressed air soil displacement (airspade) can be used in sensitive areas as this will assist in sectioning the bank, without damaging the root systems present (Figure 4). This will also allow correct pruning to be carried out to separate the sections and minimising damage to the retained root systems.

It is important to consider how the bank can be sectioned, so that where possible, larger root balls within the feature are more central within the section being moved to minimise encountering significant anchor roots that spread into adjacent sections and assist transport stability by balancing the

section load being moved. It is also advised that where roots do need pruning, it is kept to a minimum as roots occurring in clumps, or with a diameter greater than might be essential to the health and stability of the hedge or tree (see note 4) Additionally, where the hedgebank has sporadic growth, areas away from hedge species are preferable for the point of separation (Figure 5).

Once all of this has been resolved, the excavation of the hedgebank can commence. The side of the bank facing the direction of movement should have any built-up material at the base removed down to a level equivalent to the surrounding ground level. This will help to define the base of the bank more accurately, as well as allowing the bank to be moved more easily without risk of compromising the structural stability. Any roots that spread into the adjacent land will also be exposed and can be pruned as necessary.

On the opposite side of the hedgebank from the direction of movement, the base of the bank should be cut into with the bucket at least a third or halfway through. This will help with the hedgebank section becoming free more readily when the bucket cuts in from the side facing the direction of movement (Figure 6).

The section can then be excavated out of the original location ready to be moved to the new position, with movement occurring without delay.

Once the section of hedgebank has been successfully repositioned – ensuring that the section is: correctly orientated, in the right comparable position, stable, and as close to the adjacent section as possible – subsoil from the original locations should be used to backfill any gaps along the

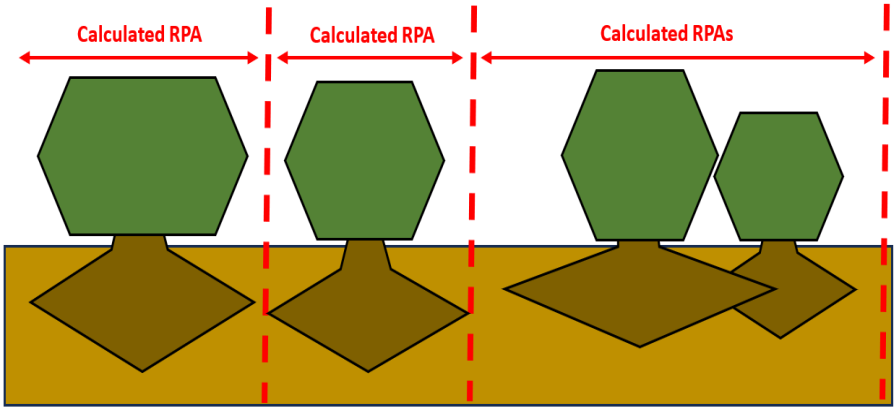


Figure 5. Example of sporadic species on hedgebanks and choosing suitable translocation points (using Root Protection Areas)

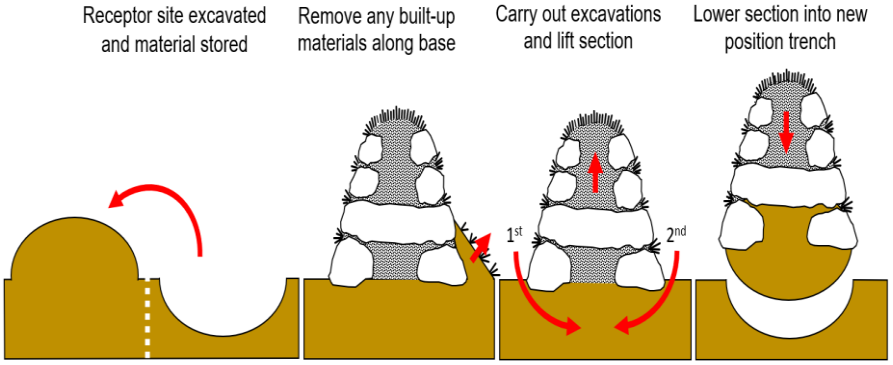


Figure 6. Annotated methodology for hedgebank translocation

Figure 7. Hedgebank following incremental dragging to widen a section of road for health and safety to implement a new footpath. Road widened to the retained tree in the distance and then the development continued on the opposite side of road.

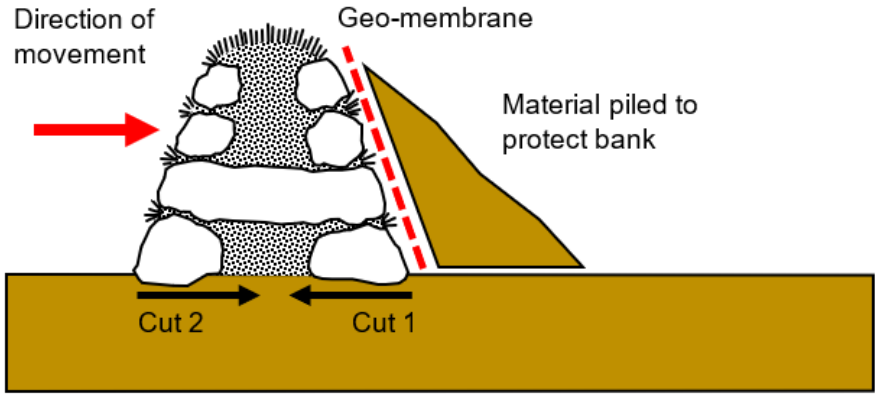


Figure 8. Overview of preparing a hedgebank for incremental dragging

base of the hedge and any gaps between the sections.

Incremental dragging

This is preferred where the hedgebank is being translocated only a small distance from the original location – such as straightening a curve in the hedgebank in a road safety scheme, or making a new entrance in a field where the section is moved to make a tapered opening either side of the entrance (Figure 7).

As is done in sectional translocation, the side of the bank facing the direction of movement should have any built-up material removed down to a level equivalent to the surrounding ground level. In incremental dragging, a digger bucket should then be used to cut approximately halfway through the base of the bank.

As with the sectional method, the base of the opposite side of the hedgebank should be cut into with the bucket at least a third or halfway through to help free the hedgebank section.

To protect the structure whilst being dragged, it is recommended that material is placed along the side of the bank facing the direction of movement (Figure 8). A suitable method would be the use of a geotextile membrane laid along the side of the bank, with the previously removed topsoil (or wood chippings from the pre-development hedge management) piled along the geotextile. The geotextile will help to prevent the face of the bank becoming 'choked up' with this temporary material.

Once the section has been prepared in this way the bucket should be used to 'push' the opposite side of the bank in the direction of travel. This is achieved by having the digger on the direction of travel side, with the digger arm reaching over to pull the bank towards the machine.

There will invariably be cracking and separation along the faces that will require repair, but where the situation permits it may be possible to move the hedgebank in a contiguous length. The presence of roots within the bank will aid this process, aiding the structural stability of the bank during movement by binding the soil.

Where the site does not permit this, the hedgebank is best split into bucket-width sections and each section dragged separately into position. This is repeated until the whole section of hedgebank has been translocated. In this instance roots may act against the stability and structure of the bank as they are pulled from adjacent sections. Where this occurs, a suitably qualified banksman can use appropriate tools to cut through roots that are pulling the bank apart.

Once the hedgebank has been successfully repositioned and is stable, subsoil should be used to backfill any gaps along the base of the hedge and any gaps that have occurred along the length of the hedgebank.

V. Immediate post-translocation works

Following the translocation, any repairs needed to the hedgebank will need to be completed using the material lost from the bank (to retain the seed store and the original stonework).

It is important that any replaced stones are carefully orientated to match the original. This will be made easier because of the photographic record that was made of the hedgebank in its original state.

VI. Post-translocation works

A maintenance and monitoring programme should be prepared to cover a 3- to 5-year period following completion of translocation. The programme should detail management, maintenance and replacement planting in line with good practice (such as BS 8545:2014), such that:

- The planting of any supplemental species should match the species already found in the original hedge. This information will be found in the site survey.
- During a prolonged period of drought (i.e. longer than 5 days) following translocation, it will be necessary to water regularly until the next period of rain.
- The feature should be periodically checked for settling with appropriate repairs of any gaps that reappear.
- Any failed new planting and/or coppice stools are replanted.

Conclusion

Land management plays an integral role in our relationship with the environment. However, there is an ever-increasing need to alter our landscape in order to facilitate land use and land practices. Various pressures such as agriculture (where larger machinery is being more commonly used) and the expansion of urban areas into our countryside (in order to meet housing needs) all require careful consideration to ensure that this management will ultimately result in a net benefit to biodiversity.

Section 6.4.43 of Planning Policy Wales 12 (PPW12) notes that ancient hedgerows are irreplaceable natural resources, and have significant landscape,

biodiversity and cultural value. In Pembrokeshire our ancient hedgerows are inexorably associated with Pembrokeshire Hedgebanks whose structural resilience has helped to retain these historic and biodiverse features and their connectivity through the countryside for hundreds of years.

To meet the demands of modern-day land use there is a constant risk of piecemeal loss of our biodiversity; however, hedgebank translocation is an innovative method of meeting the needs of development pressures without the loss of established landscape, and a robust methodology will help with successful outcomes.

Every site has unique constraints, and a one-case-fits-all methodology is not always appropriate. However, although focused specifically on the Pembrokeshire hedgebank, it is hoped that some of the information in this article may prove useful when translocating other types of hedgebanks where woody vegetation is a common feature.

Epilogue

This is the third article on Pembrokeshire Hedgebanks, and I hope that collectively, the articles have provided an insight into the importance of hedgebanks, how they can be protected during development, and how they can be successfully translocated where required.

A Pembrokeshire Hedgebank is a stone-faced feature with tapered sides and a hedge feature along the apex. This article focuses on translocating a feature of this composition; however, other types of hedgebanks are found within the British Isles that may have different composition, and where different structures are found (even in Pembrokeshire) other practices may be more appropriate. If anyone reading this has carried out similar translocation elsewhere, I would be grateful to hear about it.

My thanks as always goes to Paul Cleaver *MICFor*, a Registered and Chartered Arboricultural Consultant, with an equally keen interest and professional knowledge of Pembrokeshire Hedgebanks, who has provided assistance throughout these articles.

Notes

1. Higgins, M. (2024). 'Considering Pembrokeshire Hedgebanks during development'. *Country-Side Magazine*, 36, (4), 19-23.
2. British Standards Institution (2012). *BS5837*: Trees in relation to design, demolition and construction – Recommendations.
3. Box, J. (2010). 'Translocating wildlife habitats: a guide for civil engineers' *Civil Engineering* 163, 123–130.
4. British Standards Institution (2012). *BS5837:* Trees in relation to design, demolition and construction – Recommendations.

Bibliography

1. Box, J. (2010). 'Translocating wildlife habitats: a guide for civil engineers' *Civil Engineering* 163, 123–130.
2. British Standards Institution (2012). *BS5837:* Trees in relation to design, demolition and construction – Recommendations.
3. British Standards Institution (2014). *BS8545:* Trees: from nursery to independence in the landscape – Recommendations.
4. Environment (Wales) Act (2016). ANAW 3.
5. Hedgerow Regulations 1997. SI 1997/1160. London, The Stationery Office.
6. Higgins, M. J. (2022). 'An introduction to Pembrokeshire Hedgebanks'. *Country-Side Magazine*, 38(8), 19-23.
7. Higgins M.J. (2024). 'Considering Pembrokeshire Hedgebanks during development'. *Country-Side Magazine*, 36(4), 19-23.
8. Hirons, A. D, and Thomas, P.A. (2018). *Applied Tree Biology*, Hoboken, NJ : Wiley
9. Inclosure Act 1845 c118. Available at: c. 118 (Regnal. 8_and_9_Vict). Accessed 21 May 2025.
10. PCNPA (2024) - Green Infrastructure Statement Form, PCNPA Available at: https://www.pembrokeshirecoast.wales/wpcontent/uploads/2024/04/PCNPA-Green-Infrastructure-Form-Only-English-15-04-2024.docx
11. PCNPA (2024) - Green Infrastructure Statement Guidance, PCNPA Available at: https://www.pembrokeshirecoast.wales/wpcontent/uploads/2024/04/PCNPA-Green-Infrastructure-Guidance-note-English-15-04-2024.docx
12. Rackham, O. (1976). *Trees and woodland in the British landscape*. London : J. M. Dent.
13. Welsh Government (2024). *Planning Policy for Wales: Edition 12.* Cardiff, WG.

Michael Higgins BSc(Hons) FArborA MRTPI CEnv TMLI MCIHort is Principal Planning Officer (Environment) for the Pembrokeshire Coast National Park Authority. He was awarded the Richard Fitter Memorial medal at the 2024 National Encaenia, and has since been awarded a Fellowship of the association this year (2025).
All images and photos: M. Higgins.

The lasting influence of the Northern Naturalist, Artist and Engraver – Thomas Bewick (1753-1828)

Steven Rutherford FBNA

Looking at the books for sale in my local garden centre, I came across copies of Bewick's British Birds by Thomas Bewick. This is a facsimile copy from the original two volumes of British Birds, Volume 1 – Land Birds (1797) and Volume 2 – Water Birds (1804). These books were of immense importance when they were published, bringing fame to the author that reached far beyond our shores.

His name, however, seems to have been forgotten by most modern naturalists, unlike John Ray, Gilbert White, Charles Darwin and Alfred Russell Wallace, and yet, the American ornithologist John James Audubon (1785 - 1851) made time to meet Bewick during his visit to England and then on his return to America Audubon named the Bewick's Wren *Thryomanes bewickii* after his new friend and northern naturalist. This was not the only bird named after Bewick, as in 1830, the English zoologist and naturalist William Yarrell (1784 - 1856) named the Bewick's Swan *Cygnus bewickii* in his honour.

In literature too, Thomas Bewick was recognised for his books, with Charlotte Bronte (1816 - 1855) writing in her novel Jane Eyre, Jane would hide from her adopted family by sitting on the windowsill behind the curtains, and "With Bewick on my knee, I was then happy". The poet William Wordsworth (1770-1850) also recognised Thomas Bewick's genius in his poem The Two Thieves: -

Cherryburn. Photo: S. Rutherford

"O now that the genius of Bewick were mine,
And the skill which he learned on the banks of the Tyne!
Then the Muses might deal with me just as they chose,
For I'd take my last leave both of verse and prose."

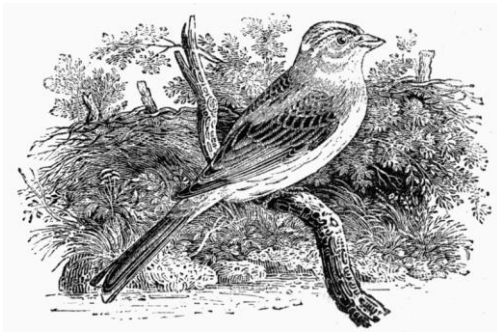
There are better scholars than I who have studied and written of the life of Thomas Bewick, and there is a suggested list of books for those who wish to become more familiar with the man. Within this article, I will look at the art and understanding of Bewick the naturalist, and discuss his influence that exists today and for the future of natural history studies, here is some background into my relationship with Bewick which may help as the story unfolds.

Thomas Bewick: painting by James Ramsey

Thomas Bewick grew up at Cherryburn Farm next to the village of Mickley on the southern banks of the River Tyne. The features of the surrounding countryside are to be seen in

much of his illustrations, some still recognisable to me today, as it is only eight miles from my childhood home in the village of Lemington, so we must have shared some of the same playgrounds. The illustration, for example, of the Nuthatch *Sitta europaea* on a dead tree next to a river seems at odds with this woodland bird. Nuthatches are not thought of as riverside birds, however, the river banks at the bottom of the vale on which Cherryburn stands, has a small wood on each bank and this riparian feature still holds Nuthatch today. The river side would have been a popular place for Bewick as he played and crossed the river to go to school and church in the neighbouring village of Ovingham giving him opportunities to observe the Nuthatch in this wood.

Nuthatch



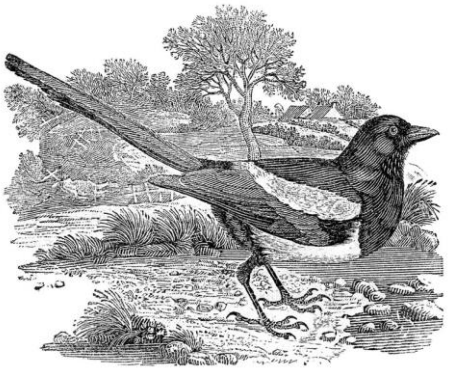
Yellowhammer

We can say with some confidence where Bewick observed another bird, the Yellowhammer *Emberiza citronella*, by looking at the background to the image. Ryton

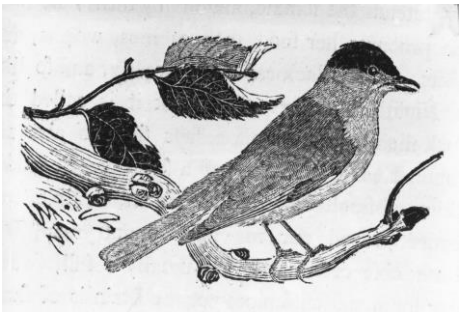
An original boxwood block used by Thomas Bewick © Cherryburn photographed by S. Rutherford, with kind permission from Cherryburn

Willows is an area of scrubland on the south banks of the River Tyne and is some six miles east of Cherryburn, but is still, as it was when I was a child, a place I see and hear Yellowhammers. Even though the profile of the river has been altered since Bewick's day with ash from the now decommissioned Stella Power Stations, the scrub at Ryton Willows still edges the river on this low-lying space.

Bewick used Boxwood blocks to carve the images for his bird books. This technique was a cheaper option than using metal plates which were becoming a more favourable medium, but woodcarving was thought to give inferior quality to the image. Bewick's skills and artistic abilities meant he could produce a high-quality picture using woodblocks. The fineness in his cuts could show light and shade that suggests depth which we shall look at with the Magpie *Pica pica*. It was this ability to produce a quality identification book that allowed birdwatching and an interest in nature to a greater proportion of the public which was previously restricted by cost. There is another quality to the images in these books, that of storytelling. Bewick's Magpie picture is a beautiful and accurately detailed image of the bird, with the correct proportions and stance, and, even though it is in black and white, the iridescent shades that give the spectacular brilliance of the plumage are suggested through the cuts; there is also more information which helps us to understand the Magpie. If we look at the background of this picture, we can see it is more than just the identification. Bewick places the bird in an open field setting surrounded by hedges with a single standard tree and the farmhouse at the top of the hill. This is typical habitat where we would expect to find Magpies. If we then look at the background beneath the tail, we can see that a tragedy has occurred – the fence has broken and a horse has fallen to its death. Through this scene Bewick is suggesting that the Magpie is a bird of carrion, and so the picture is now not just giving us the ability to put a name to the bird, we now have information on the bird's habitat and food requirements.



Magpie



Blackcap

In the study of the Blackcap *Sylvia atricapilla*, we can see that Bewick was more than just a birdwatcher, he was in fact a competent naturalist. The image of the Blackcap is at first glance, quite simple in that it is the bird sitting on a twig. We can admire the technical skills of the precision and accuracy in the detail of the bird from the hand of Bewick, but again let us look at the story telling skills of the naturalist. The Blackcap is shown with its bill open and the crest raised, this is suggesting that the bird is singing. Next, if we look at the twig, (I don't believe that it was just a prop to show the bird from); we can see that some of the buds have yet to open while a few are in full leaf. The buds are dark and very small, while the leaves have a double toothed edge and the shape is asymmetrical, there is also a suggestion the upper surface is rough and scratchy. There are other small round buds that have a rosebud look to them, these are the flower buds of the tree, and all of these features are from the English Elm *Ulmus procera.* These were the most common tree of the hedgerows in Bewick's time and so would have been very obvious to the people who were interested in the natural world at that time. The information taken from this image now tells us the best way to find a Blackcap is by searching the standard trees in the hedgerows in spring when the leaves are starting to unfold and the bird is easier to observe, and these birds are best found through the song when the males are singing.

Conclusion

When looking through these books today bird watchers will see Bewick's limitations, birds that he was familiar with are anatomically accurate with great care and fineness of detail brought by his skills as an artist and observer of nature, while with those that he was not so familiar, he used paintings and taxidermy specimens with poorer results that would not be accepted in a modern bird identification publication. But we must realise the time which we are looking at, and respect the fact that Bewick was a busy business and family man, and these limitations should not diminish the significance of his books and their legacy to the modern naturalists. Before Bewick, books to encourage the study of natural history were priced way beyond most people's ability and were only for those fortunate to have had an education, Bewick opened up the study of nature by the power of storytelling through his pictures and words, and using the woodcarving medium kept the price affordable for a greater audience. This principle has been continued with books today which opened this world to many young naturalists; and with books such as "The Observers" and "The Wayside and Woodland" series nurturing the delights of looking at nature; and gaining more depth on the subjects with the Collins Bird book which is still the 'go to' bird identification book for the majority of todays birders.

Just about every natural history subject has a book that follows the principles and qualities set by Bewick at an affordable price.

I see Thomas Bewick as a major part of the development in the study of nature – John Ray gave the science of naming species, Gilbert White showed how to observe and record, Charles Darwin and Alfred Russell Wallace brought the understanding of natural selection and Thomas Bewick opened up the study of nature for everybody to be able to contribute and enjoy.

Suggested reading –

Bain, I. (1979). *Thomas Bewick an illustrated record of his life and work.* Tyne and Wear County Council Museums.

Bain, I. (1989). *The Workshop of Thomas Bewick a Pictorial Survey.* The Thomas Bewick Birthplace Trust.

Bewick, T. (2010). *Bewick's British Birds.* Arcturus Publishing.

Bewick, T. (1887). *Memoir.* Bernard Quaritch Ltd.

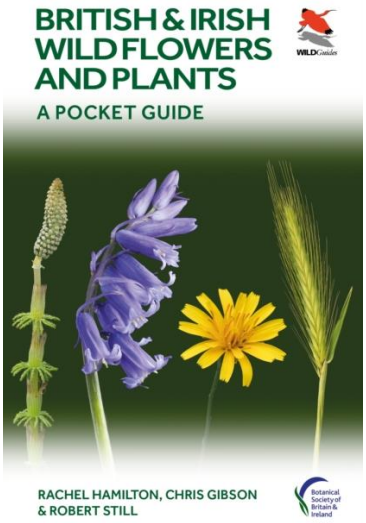
Bewick, T. Edited with an introduction. Bain, I (1981). *My Life.* The Folio Society.

Uglow, J. (2006). *Nature's Engraver: A Life of Thomas Bewick.* Faber and Faber.

Steven Rutherford is Honorary Chairman of the British Naturalists' Association since he took over the role from Roger Tabor in 2019. He was previously MBNA and awarded the Richard Fitter Memorial Medal in 2015, and gained BNA Fellowship in 2017.

Book Review

Editor: Roy Stewart MSc, FIBMS, FLS, FRSB, FBNA



British and Irish Wild Flowers and Plants

by Rachel Hamilton, Chris Gibson and Robert Still.
Published by Princeton University Press. 2024.
ISBN: 978-0-691-24540-9. 320 pages. Paperback. £12.99

Reviewed by Roy Stewart FBNA

Not another wild flower and plant guide you may well say. So what makes this so different and worthy of a review. It is published under the well-recognized Wild guide series but in conjunction with the BSBI (Botanical Society of Britain and Ireland). This is a very innovative guide of 320 pages with 3800 clear high-definition photos concentrating on the unique features of an individual plant that allows specific identification especially when certain of these features could be misleading or found on similar plants. The guide is not supposed to be comprehensive but it still covers 93 families and 723 species of flowering angiosperms but within this it features common grasses, sedges, rushes and ferns. It also covers common broadleaved trees and gymnosperms.

The first 66 pages cover basic ecology and biology and the morphological features used in identification. Do not ignore this section as it lays down the basis for the rest of the book for specific identification. In the plant parts section, there are excellent details on flower structure including inflorescence types, leaf shape and features, fruit types and ovary position. The feature on ovaries is the best explanation I have ever seen. Using a combination of these features then allows one to follow a series of broad-based galleries all based on photos to allow one to hone down to a specific group. The best description I can think of to explain this is a visual algorithm and I have tried this and it does work. Once a specific type of plant is possibly found then confirmation can be executed by looking at the brief description given along with photos of the specific features and looking at distribution maps which also has details on flowering and fruit times.

Some people have commented on the size of the pictures as too small but once you get used to the concept that they are highlighting very specific individual features then it's very easy to adjust to this scale. It is a small book but it is definitely a pocket book to take out into the field and its size allows it easily to be slipped into a pocket rather than buried in a rucksack. It's clearly aimed at a beginner and it clearly fulfils this function but there is more than enough detail and specimen coverage to keep any competent botanist happy. Wild guides have probably produced the ultimate pocket guide to common British and Irish plants and it does exactly what it says in the blurb.

Many of you will probably have got a copy already especially as co-written by our very own Dr Chris Gibson FBNA. If you haven't got a copy then it's an easy suggestion to say purchase one as it's a perfect guide to an enthralling subject especially given its inclusion of common sedges, rushes and grasses and ferns and extremely reasonable price it's a book I highly recommend and is the only book I now take out into the field.

Volume 36 Number 6 Summer 2025

British Naturalists' Association the National Body for Naturalists ISSN No. 0011-023X