

Living Woods

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MAGAZINE

The
**WILDLIFE
ISSUE**

**Deer management –
is it really necessary?**

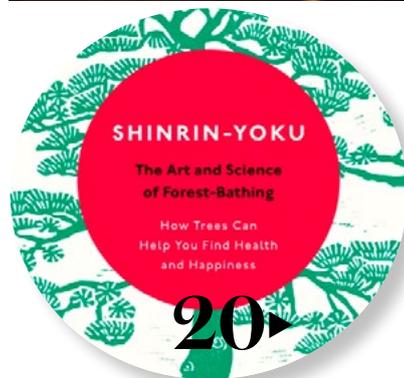
PLUS

- Burning issues for clean air
- Dealing with protected species
- Axing questions – choosing tools for green woodworking

CONTENTS

There is an animal theme running through the summer issue of Living Woods. Depending on the nature of the critter, the response of woodland owners is either conserve, cull or cook and all of these reactions can be contentious. Ecologist and woodland consultant Petra Billings provides advice on what to do if you discover protected animal species in your woodland. Deer manager David Hooton explains why managing deer numbers is beneficial for woodland, and bushcrafter Craig Fordham demonstrates how to make a sturdy adjustable pot hanger for woodland cook-outs. We look at a topical item affecting us all: wood-burning stoves and clean air, and review Dr Qing Li's book *Shinrin-Yoku*, on the tradition of Japanese forest bathing.

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Cover A FALLOW DEER IN
A SUNLIT WOODLAND.
(Photo courtesy Siska Vrijburg/Unsplash)

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@Woodland News

ASH TREE POPULATIONS DEVASTATED BY JUST TWO FUNGAL SPORES

Scientists at the Earlham Institute at the University of Edinburgh have analysed the DNA of ash dieback fungal samples from the UK, Norway, France, Poland and Austria and found that they showed little diversity. In fact, they probably all originated from just two spores.

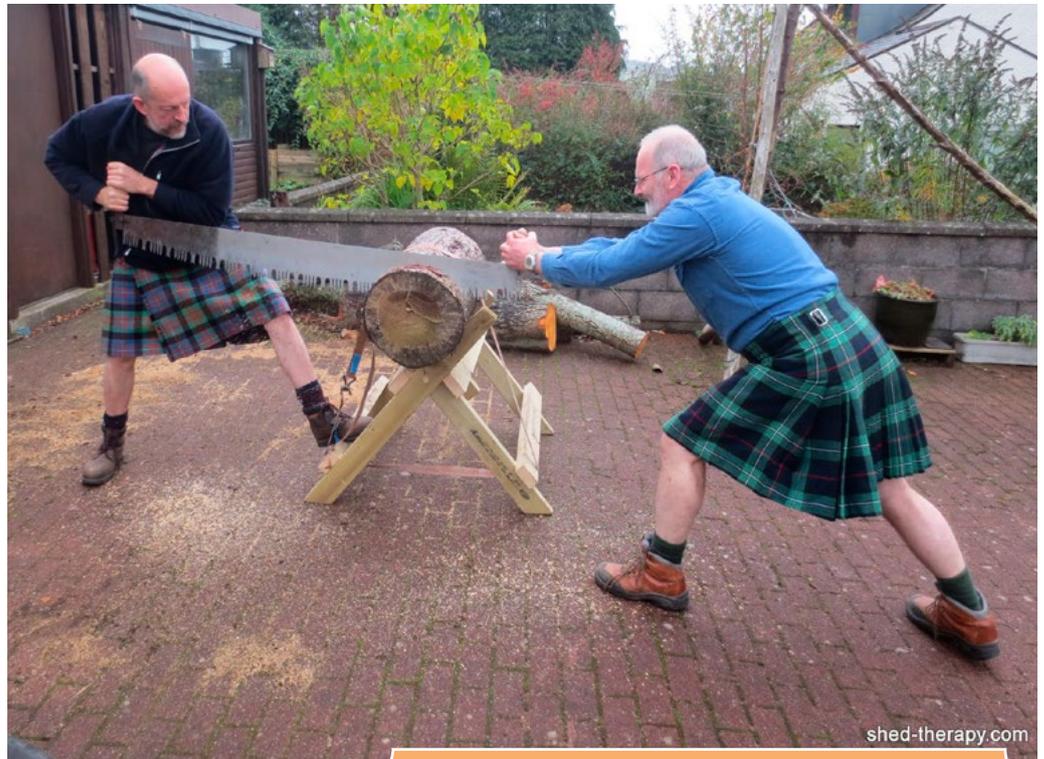
This limited mix of genes in the fungus across Europe would be expected to curb its impact – but instead ash dieback threatens 95% of all European ash trees.

The finding suggests that the arrival of a third fungal spore from overseas would be enough to intensify the disease and wipe out Europe's remaining ash populations.

In its native Asia, the fungus *Hymenoscyphus fraxineus* is widespread and extremely diverse, but relatively harmless to the native Asian ash species.

Dieback disease in European ash is caused by the same fungus, which has jumped to a new host. The fungal bodies, each about the size of a match head, produce thousands of tiny spores that spread on the wind.

Tree populations take a long time to recover from disease, so it is vital to restrict the movement of potentially infected plants into and around Europe, researchers say. Movement of ash trees into and around the UK is currently



prohibited.

European ash trees are under increasing threat from invasive pests such as ash dieback. Other pests and diseases, such as the Emerald ash borer beetle, have been found in Russia and could push the remaining European ash trees to the brink. Ash borer beetle has already caused five ash tree species in the US to be threatened with extinction.

Researchers recommend creating seed orchards to breed ash trees that are less susceptible to dieback and other pests. Initial research in the UK and Denmark is enabling selection of trees for development.

The full article is published in the scientific journal, *Nature Ecology and Evolution*.

DON'T MISS SAWFEST!

Sawfest is a new three-day festival based at the Bamford Quaker Community in Sheffield on 27-29 July. It celebrates everything to do with traditional hand saws. Organiser Gavin Phillips claims the event is a first and promises **'three days of saw joy'** for woodworking and traditional tool enthusiasts. 'All human-powered saws of any length are welcome – especially the rusty, the bent and the blunt, because they are cheap and teach you a lot'. Full listings and tickets: www.sawfest.co.uk

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*The trees encountered on
a country stroll
Reveal a lot about
a country's soul.*

W H Auden

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@Woodland News

TREE HEALTH RESILIENCE STRATEGY

The new **Tree Health Resilience Strategy** published by the government at the end of May has been broadly welcomed by forestry organisations. Part of the 25 Year Environment Plan, it focuses on delivering three outcomes to build resilience: resistance, response and recovery. It aims to increase the extent of our woodlands, improve the diversity of species and ensure that they are managed and healthy.

Simon Lloyd, Chief Executive of the Royal Forestry Society said, 'The strategy clearly spells out the many benefits of well managed woodland

and recognises that it is important to consider both species diversity and genetic variation within and among populations.

'It is now up to the sector work together, with Government support, to bring more woodland into management as well as to plant new woodland which is adapted to environmental pressures and is resilient to expected future conditions.'

977 million broadleaf trees in England. 18 for every person



LEAVES ON THE LINE

Woodland-loving commuters are probably horrified by Network Rail's plans to cut down one million trackside trees in order to improve rail efficiency. The company added insult to injury by

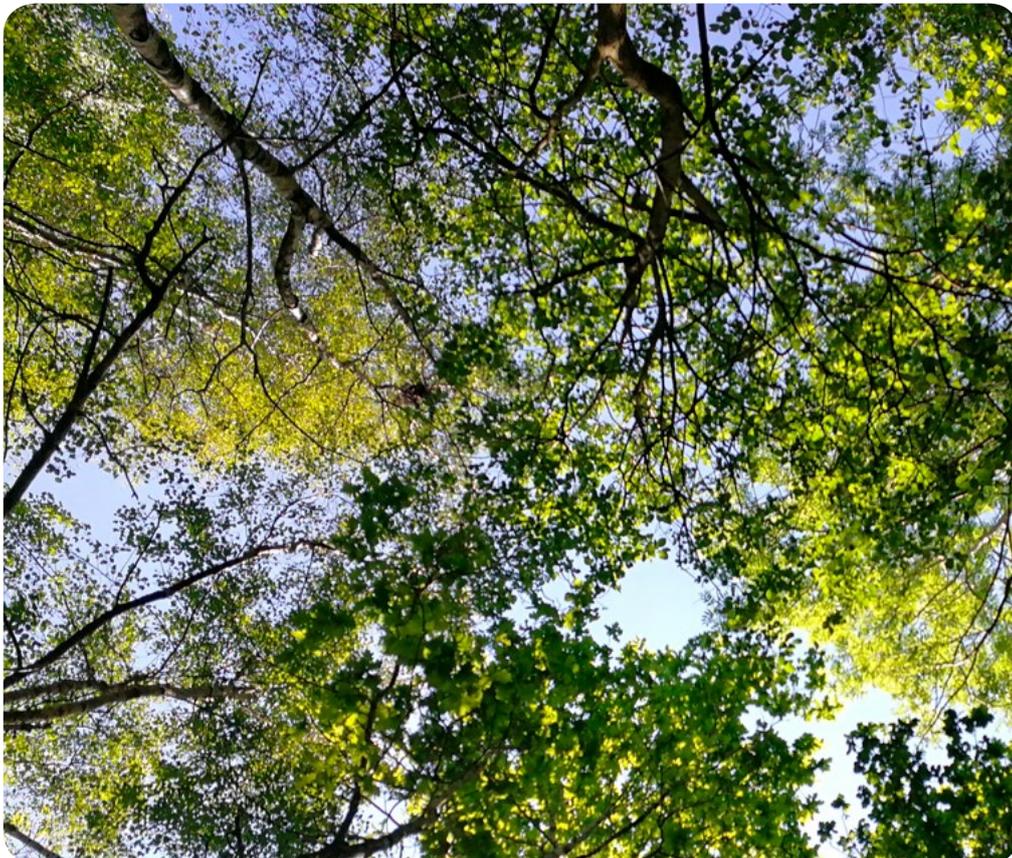
beginning the work during the bird nesting season, until Jo Johnson, the Minister for the Environment, asked them to stop.

Network Rail is the UK's fourth largest landowner and has responsibility for 10 million trees. According to Chief Executive Mark Carne, who was interviewed on Radio 4's *Today* programme, the company is trying to manage habitats for biodiversity, but more critically, 'We have to chop down trees that are at risk of landing on the railway and causing danger to rail users.'

Some 900 trains hit fallen trees in 2014 and no one would dispute that safety must be at the heart of Network Rail's tree management programme. A tree with a diameter of just 150 mm is regarded as sufficient to cause a derailment.

'I don't think Network Rail are in the forestry business,' said transport writer Christian Wolmar, drily.

But perhaps they could take a little more advice from arborists and learn about the benefits of coppicing.



VIEW THROUGH THE TREES

Julia Goodfellow-Smith eyes up the quadruped neighbours.

One of the reasons I love woodlands so much is the variety of life in them. There are the trees, of course, but also shrubs and ground flora, lichen (one of our beech trees is bright orange!), birds, animals, butterflies and other insects.

So I was rather shocked the first time I saw where the ponies had been in Raven's Wood. The ground was muddy and completely churned up, and there was not a plant in sight. I wasn't at all sure that Nicola and James were doing the right thing – it looked as though the ponies were completely destroying the habitat that I love so much.

And then I looked up. Behind the area that the ponies were in, I could see a bramble forest. The tops of the trees were visible above the brambles, but nothing else. The trees had been densely planted and now needed thinning but were completely inaccessible.

Nicola says that, at that stage, there was little bird life in the woodland, and there was certainly no ground flora or shrub layer apart from the brambles – and in some places, giant bracken. The bird feeders are now busy with a variety of birds, darting in and out of the woodland.

After Nicola and James have strimmed the bracken and brambles, the ponies are allowed into the area to nibble on any new growth and trample the roots. The ponies' hay is organically grown in a local meadow and strategically placed to encourage them into the right areas.

Once they have done their work, the area is fenced off, seeded with mixes chosen to match the habitat and allowed to rejuvenate. The benefits of this are now visible, with verdant new growth appearing in the first areas to be managed.

Now that James and Nicola can access the woodland, they have been able to thin the trees, giving the forest a chance to thrive. The ponies have even created paths across the steep slopes, effectively terracing the hillside and improving access for woodland management.

Of course, brambles are not all bad,

providing food and habitat for a range of insects, animals and birds, so Nicola and James have left some areas uncleared.

But, what about the ponies? They are plains animals, how are they enjoying living in a woodland? Unlike many horses kept in a field, the ponies have different areas open to them, which means that they can choose to sunbathe, be in the shade of the trees, eat or walk around their track.

James says, 'The ponies have never been happier. Although there are open areas in the woodland, they have proved themselves to be entirely adaptable. They even choose to sleep amongst the trees at night rather than in one of the open areas.' I am very pleased to report that I was wrong about the ponies destroying the habitat. In fact, they have supported James and Nicola's conservation efforts. The woodland has opened up and is now manageable. The trees have a much better chance of thriving now that they have been thinned. The number of birds has increased, and the ground flora is growing back. Wild daffodils have returned to the more open areas and the meadow promises to provide a more varied habitat than the dark and enclosed woodland that preceded it.

There is more to do yet, but, thanks to a lot of hard work and the support of the ponies, Raven's Wood appears to be well on the way to being a productive and biodiverse habitat.



(PICTURES COURTESY JULIA GOODFELLOW-SMITH)

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The ponies have even created paths across the steep slopes, effectively terracing the hillside and improving access for woodland management.

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PROTECTED SPECIES IN WOODLANDS

Ecologist and woodland consultant **Dr Petra Billings** shines some light on the laws regarding protected species.

According to the Collins English Dictionary, a protected species is ‘a species of animal or plant which it is forbidden by law to harm or destroy’. Interestingly, it adds that ‘In England, thrushes are a protected species so you will not find them on any menu’! Setting aside the question of whether we might want to eat thrushes or not, the basic Collins definition is correct. However there is more than one law relating to wildlife protection so this can be a confusing area for woodland owners.

UK Protected Species

In the UK, the main law protecting wildlife is the Wildlife and Countryside Act of 1981 and its amendments (though it doesn’t apply in Northern Ireland). This is a large and complex piece of legislation. As well as measures for direct wildlife protection, it strengthens the protection for Sites of Special Scientific Interest (SSSI), prohibits the unauthorised and intentional uprooting (but not picking) of wild plants, and makes it illegal to release into the wild, animals that are ‘not ordinarily resident’ or that are not regular visitors to Great Britain, such as grey squirrels and mink. It also prohibits the planting in the wild of certain named invasive plants, such as Himalayan balsam, giant hogweed and Japanese knotweed.

The Act includes a number of schedules with lists of the species which are given special protection and these can be found on the [UK Wildlife website](#). The schedule of protected mammals includes red



A Noctule bat. (Photo courtesy Martin Celuch/ Bat Conservation Trust.)

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*If you come
across protected
species in your
woodland,
STOP work
straightaway.*
”

squirrels, pine martens and water voles. All six of our native reptiles are protected, as are all six of our native amphibians.

Birds

For woodland management purposes, key parts of the Act relate to the protection of birds. The Act prohibits the ‘intentional killing, injuring or taking of any wild bird and the taking, damaging or destroying of the nest (whilst being built or in use) or eggs’. So although it’s not illegal to work in your woods in the bird nesting season, it’s good practice to avoid carrying out works from March to July or even August to avoid the risk of disturbance. It’s worth mentioning here that game birds, such as many wildfowl, are covered in a separate schedule. They are protected during the ‘close season’ (1 February to 31 August) but may be killed or taken outside this period. Thirteen so-called ‘pest species’ can be killed or taken at all times, for example crows, rooks, pigeons and Canada geese.

Badgers

Badgers have their own legislation, the 1992 Protection of Badgers Act. Under this act, it is an offence to kill, injure, or take a badger or to interfere with a badger sett by obstructing any entrances. It’s also illegal to disturb a badger when it’s occupying a sett. In most cases you should be able to avoid disturbing badgers and damaging or blocking access to their



ABOVE Great crested newt on moss. (Photo courtesy Froglife.) BELOW Badgers and their setts are protected by the 1992 Act.

sett but if you can't, you can apply for a licence to do so from Natural England. You'll need to show you've tried everything else possible to avoid affecting badgers. There is more information on the [Gov.uk website here](#).

European Protected Species

Then there are the European Protected Species (EPS). These are species protected under Annex IV of the European Habitats Directive. EPS include all 17 UK species of bat, the dormouse, great crested newt, otter, sand lizard and smooth snake. Sadly, most of us would be very unlikely to encounter the last three in our woodlands as these are rare animals with specialist habitat needs. However, the majority of mixed broadleaf woodlands, and certainly ancient woodlands, potentially have bats roosting in them, at least the more common species such as pipistrelle or brown long-eared bat. In the south, dormice are possible residents and any woodlands with ponds, whether permanent or seasonal, could provide habitat for great crested newts.

EPS in your woodland

So how do you know if you've got any of these animals in your woods? If you haven't been lucky enough to see any of them for yourself, the first thing to do is to contact your local Biodiversity Records Centre and request a biodiversity report. [Biodiversity Records](#) Centres are county-based organisations, many of them linked to the county Wildlife Trusts. They will often provide these reports at low cost or even free to local landowners if it is for general interest and not for planning or other commercial purposes. The reports list all the wildlife that has been reported on your land and its surroundings, as well as any conservation designations on the land. You



PICTURES COURTESY HANS VETH & LINUR KALIMULLIN ON UNSPLASH

Native red squirrels are a protected species, unlike their grey cousins.



may be surprised at just how comprehensive these wildlife records are, especially if you've got any public rights of way or other public access to your land. There are so many apps available now for reporting wildlife sightings as part of 'citizen science' projects that data is increasing all the time.

Of course, the reports are only as good as the records that have been submitted and if you're keen to find out more, the best bet is to talk to your Wildlife Trust and/or commission a local ecologist to carry out a survey. The [Chartered Institute of Ecology and Environmental Management \(CIEEM\)](#) maintains a professional directory on their website.

How do I manage my woodland with resident protected species?

This will depend on what species you've got. The Forestry Commission publish some excellent [guidance online](#), with further links to specific guidance for the different species.

The guidance explains when the different species are most vulnerable to forestry work and how best to avoid harming them. In some circumstances this may not be possible. If you are proposing to fell a tree with a confirmed bat roost, for example, you'll need to get a licence from Natural England. Mostly however, if you follow best practice guidance, a licence will not be necessary. The key to avoiding harm to protected species is really timing. Coppicing in a wood where dormice are present is best done while they are hibernating deep in hollows amongst tree roots between November and March. The least vulnerable times for bats are March/April and September/October, which avoids the summer period (May to August) when the females are in maternity roosts, or the winter period (November to February) when the bats are hibernating and unable to react quickly to threats.

The golden rule is that, if you come across protected species in your woodland, stop work straightaway and seek advice from Natural England.

In our next issue, Petra will look at individual protected species in more detail and provide advice on good woodland management practice.



TOP LEFT: A hazel dormouse. It is an offence to handle dormice unless you are licensed to do so. (Photo courtesy Steven Cheshire/ Warwickshire Wildlife Trust.)

ABOVE: A Noctule bat flying from tree hole. (Photo courtesy Hugh Clark/ Bat Conservation Trust.)

LINKS

Biodiversity Records Centre
www.brc.ac.uk

UK Wildlife and Countryside Act
www.ukwildlife.com

Natural England
www.gov.uk/government/organisations/natural-england

Chartered Institute of Ecology and Environmental Management (CIEEM) www.cieem.net

People's Trust for Endangered Species (PTES)
www.ptes.org

DR PETRA BILLINGS is a Chartered Ecologist who has worked in conservation management for more than 25 years. Petra offers a range of ecological services, specialising in woodland management plans, Countryside Stewardship grant applications, ecological surveys and in providing training courses. Visit her website www.sussexwoodlands.co.uk.

BURNING ISSUES: THE CLEAN AIR STRATEGY

Michael Gove, Secretary of State for the Environment, Food and Rural Affairs, has grasped the environmental nettle again and unveiled ambitious plans to improve the quality of air in the UK. At least that's what it sounds like. Currently the jury is out on how rigorous the government's ideas really are. And for now, they are just ideas which form part of a consultation document.

The new Clean Air Strategy is a key part of the government's 25 Year Environment Plan and it tackles vehicle emissions, agricultural ammonia emissions and harmful domestic fuels. To quote from the press release, 'Of particular concern is burning wood and coal to heat a home which contributes 38% of UK emissions of damaging particulate matter: Cleaner fuels and stoves produce less smoke, less soot and more heat. In future only the cleanest domestic fuels will be available for sale.'

Diesel vehicles and coal-burning are, rightly, first in the government's sights, but those who believe that wood-burning is a sustainable source of energy may be left a tad confused by the smog of words around the subject.

Burning wet – or green – wood releases particulate matter into the atmosphere and this is especially problematic in urban areas. According to the government, wood- and coal-burning in homes contributes almost 40% of emissions of small particulate pollution, PM2.5, which is especially damaging to health. In rural areas emissions from domestic fires are obviously dispersed more freely.

Woodfuel or biomass remains a low carbon form of energy: each tree absorbs the same amount of carbon dioxide when growing as it releases when burned. If woodlands are managed in a sustainable manner, with coppicing and replanting, for example, new tree growth will continue to absorb carbon dioxide, off-setting that released by burning woodfuel.

The recent popularity of wood-burning stoves is testament to the success of the campaign to pull people away from fossil fuel energy, both for reasons of cost

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and out of concern for the environment. Nevertheless, air pollution is a serious matter which we neglect at our peril.

Owners of wood-burning stoves will no doubt be relieved to hear that there is no sign of a ban in the foreseeable future, but it would be foolish to rule out legislation entirely. Details were sketchy as we went to press, but the government has said it will legislate to ensure 'only the cleanest domestic fuels' will be on sale. This may include wood bearing the [Woodsure](#) 'Ready to Burn' logo, which indicates low moisture content. How this will impact on those who harvest their own logs for personal use is a moot point. Woodsure is a not-for-profit organisation that works to raise the quality of wood fuel in the industry.

Readers of this magazine will know that wood burns more efficiently once it has been seasoned and left to dry for at least 12 months and possibly longer, depending on the species. Moisture meters are easily and cheaply available to enable fire owners to check that their logs contain less than 20% moisture.

Modern wood-burners are generally cleaner and more efficient than older models and there are simple ways to ensure that we keep air pollution from our fires to a minimum:

- Get a moisture meter and burn logs with less than 20% water content.
- Wood-burners are more efficient and less polluting than open fires.
- Owners of wood-burning stoves should have them swept and cleaned every year.
- Check that stove controls are set to optimum level for burn efficiency.
- If you are installing a new stove, use a HETAS-licensed installer.
- Do not burn waste industrial wood which may be impregnated with paint or other chemicals.

For a more detailed discussion, read the advice from Woodsure, via their [Readytoburn website](#).

The government consultation is open until 14 August and comments are invited via the [DEFRA website](#).

DEER MANAGEMENT

Is it really necessary?



PHOTO BY MIKE TINICTION ON UNSPLASH

What's good for the wood? **David Hooton** of the Deer Initiative looks at the options available to woodland owners.

Few subjects elicit quite so much heated discussion as deer and their place in a woodland environment. Can the conflicting views of animal lovers and managers ever be reconciled?

By and large, professional woodland managers believe that deer numbers should be controlled because deer tend to nibble shoots and destroy young trees. Many people want to see deer in the countryside, but there is often a lack of understanding about why deer numbers should be managed. Six species of deer live wild in the UK, and all will, to a greater or lesser extent, affect the management work of woodland owners. Woodlands are productive areas and produce a wide range of valuable products, with a small number of individuals able to make a full-time living from them. Wild deer are part of our

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***Diverse woodlands
are only possible
when they are
actively managed.***

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natural biodiversity and we need to learn to live with them, managing their impacts and controlling their populations to ensure that there is a reasonable balance between woodland management objectives and a sustainable deer population.

The impact of deer in woodland

Deer are generally selective browsers, taking the succulent tips of growing vegetation or the natural regeneration of coppice or seedlings. This is the heart of a woodland and many other species rely on this natural diversity of plant life, from butterflies, moths, and insects, to the dormouse or migratory and resident birds.

Deer have no natural predators and diverse woodlands are only possible when they are actively managed, with deer numbers at levels where their impacts are



PHOTO BY ALEX BABER ON UNSPLASH

minimal. During the spring, growth of all plants is rapid, and woodlands appear green and full of life. As the year moves on, free-ranging deer will browse on this growth and slowly the woodlands will start to change again. If the understorey is eaten, the natural regeneration and structure of the woodland is lost. Male deer also rub the velvet off their antlers against young trees, which can damage the bark or even kill the tree.

A partner study by the Woodland Trust and the Deer Initiative in the Suffolk and Essex claylands established that levels of deer activity and deer impact across the two counties is high and has led to a significant detrimental impact on the woodland structure and the potential for these woodlands to naturally regenerate. Other work by organisations such as the RSPB, the Wildlife Trusts and the British Trust for Ornithology, also support the need to control deer populations

where their browsing is adversely affecting the structural regeneration of woodlands or heathland. In many cases, we ought to be developing appropriate deer management before impacts become noticeable, when deer first become resident in a

DEER IN NUMBERS

- 2 million** deer in total in the UK
- 350,000** culled every year
- 6** deer species on the UK
- 2** deer species are indigenous: Roe and Red
- 4** species introduced in the 19th century. Many escaped from stately home deer parks: muntjac, Chinese water deer, fallow and sika
- All** species eat tender tree and plant shoots and leaves. Red, sika and fallow deer will peel and eat bark. Smooth-barked species such as Norway spruce, lodgepole pine, larch, ash, willow, and beech are favourites.

woodland or as any form of woodland management is planned. Too often, owners decide to try coppicing to see how it goes and are shocked by how quickly new growth is browsed off even in areas with only a moderate deer density.

Sensitive deer management

So what is the best way to manage the wild deer population? Woodland owners and managers should begin with a very clear idea of how they would like their woodland to look in the future, what they expect to grow, and then identify the challenges to reaching that end goal. One obvious challenge is a sensitivity to culling wild animals: it can be a simple choice between animal or woodland.

At the Deer Initiative, we would usually start by establishing these goals with the owner and then carry out a deer impact and activity survey, highlighting the current browsing pressure on the structure of the woodland. These surveys are best carried out in the early spring period, just before any spring emergence, although survey work can be undertaken by experienced surveyors at any time of year. Once the deer threat has been identified, a deer management plan can be developed. This can be very simple and straightforward, although it may be slightly more complicated for larger holdings or woodlands in multiple ownerships. Ideally, the deer will be managed across the whole area in which they range, so would include the woodland, arable fields adjoining the woodland and probably much of the wider landscape – and this is where collaborative landscape management starts. Deer are wild animals and are not owned: owners may have the ‘right to take’ when they are on their ground, providing they hold the deer stalking rights to that land.

Controlling deer populations

If you decide that you need to keep deer levels at a sustainable level, it is worth talking to a professional deer manager. Check that they are qualified to at least Deer Stalking Certificate Level 1, have appropriate ▶



Electric fencing helps to keep out deer from newly coppiced areas. Note the high seat located to catch deer as they move through the pinch point the end of the fencing.



PHOTOS BY DAVID HOOTON

Deer tracks in a SSSI woodland.

insurance, and are sufficiently experienced to undertake the culls required. Deer Stalking Certificate Level 2 provides a higher qualification and recommendations, or references should also be sought. Deer culls are time-consuming and when dealing with a population of wide-ranging fallow deer, for instance, it can take as much as ten hours per deer culled. Muntjac and roe deer may take as little as two hours per deer culled, but the population may be more numerous and therefore more will need to be culled before impacts are reduced. As an example, it took almost ten years of regular culling in one 35 ha SSSI woodland in Essex to reduce populations of muntjac and fallow deer to reasonable levels. Even now, 15 years later, the impact of deer browsing can still be seen and culling has to continue. An old Forestry Commission wildlife manager once told me, ‘When you have deer in your woodland you will never be able to stop culling.’

Culling vs. fencing

Invariably owners and stalkers will underestimate the numbers of deer in an area; deer are notoriously difficult to count, being either small and secretive, or larger and more mobile. Rarely are they within the

area you are surveying. At the Deer Initiative we assess cull numbers by looking at the impact of local deer on woodland management objectives. Too many impacts generally mean too many deer. The focus on the culling must be on the females, as these are the ones that have young each year. Only by reducing doe numbers is there any chance of reducing overall deer populations and thus the damage in a woodland.

Fencing is an alternative method of keeping deer off vulnerable areas for short periods of time, but it can be expensive. The Forestry Commission provide guidance on [their website here](#).

Fencing off coppice or thinned areas to allow natural regeneration can be part of the tool box used to protect woodlands. Although fencing disrupts the natural movement of other animals within the woodland, it can be very useful in protecting new growth as long as it is well maintained. It does not, however, remove the need to use lethal control, and in some areas increases the need, as deer numbers may be concentrated in a smaller area. In parts of Suffolk there are many small woodlands with a number of 1 ha enclosed coppice coupes within them. Growth has been good and woodland structure is being enhanced. The challenge

now is managing the deer across the landscape, and multiple land ownerships to ensure that when the fencing is removed the deer (fallow in this case) do not immediately return and destroy much of the gains achieved.

The Deer Initiative has published the [Deer Accord](#), which lays out clearly their work to maintain UK deer populations at a sustainable level. Deer management, whether it’s the planning, monitoring or control itself, is discussed in greater detail at events organised by the Deer Initiative across the country. Best practice guides can be found on the [Deer Initiative website](#).

Links

The Deer Initiative
British Deer Society
Forestry Commission

Deer management advice
How many deer?

Woodlands TV
Deerstalking in the Woods
Butchering a deer

DAVID HOOTON is the Deer Liaison Officer for the [Deer Initiative](#) in the East of England and East Midlands. David managed the East of England Wild Venison Project in 2010–2014 to support the development of venison processing and marketing projects.

FIRELIGHTING FOR BEGINNERS

When it comes to firelighting, time spent in preparation is never wasted, from choosing a fire site, to the selection and collection of fuel. **David Alty** issues sure-fire instructions.

To start a fire, you will need three things, commonly known as the **fire triangle**.

- A source of ignition (heat)
- Fuel
- Oxygen

Use of a fire steel and knife is demonstrated here, but matches, lighters or flint and steel are also excellent tools and many types are readily available. There may be large quantities of wood in a woodland, but not everything is suitable as firelighting material. Dead branches which snap easily from trees are ideal. Try to avoid fallen limbs, as they will have absorbed moisture from the ground.



1 Collect a selection of different-sized sticks and sort them by thickness, placing them easily within reach. This is your kindling. Next, you need tinder – something that will ignite readily when put in contact with a spark. Birch bark, carefully peeled from a tree, is ideal, as are various kinds of dry seed heads, such as bulrush, thistle or willowherb, or the dead branches from the base of a gorse bush (beware of the spines).

2 Make a platform from some of the thicker branches. This will isolate the young fire from the damp ground and also allow oxygen to flow readily into the heart.

3 Make a loose nest-shaped ball from your selected tinder. Rubbing and shredding the birch bark will make it easier for a spark to cause ignition.

4 Strike sparks from the fire steel using the back of your knife and make sure the blade and point are away from you. Bracing the knife firmly against your leg and pulling the steel backwards gives stronger sparks and it is easier to direct where they land. Once a flame has started, add in extra strips of bark to give it strength.

5 Now gradually feed on the prepared kindling bundles. Hold the sticks above the fire to enable the flames to get a hold, before carefully placing the sticks on top of the burning timber.



AXING QUESTIONS

Choosing the right tools for the job is a critical part of green woodworking. **Maurice Pyle** discusses some of the best options.

Researching and acquiring the right tools, those that are efficient, functional and a joy to use, is all part of the fun of setting up in green woodworking. Tools should inspire good work and give many satisfying years (if not a lifetime) of creating beautiful utility products from woodland timber.

So what are the basic tools needed to get started? This is almost impossible to answer accurately, because the world of woodcraft is quite diverse and there are several well-defined routes into it. Generalists who work mainly in woodlands on a range of projects will require a different set of tools to a specialist spoon carver, for example. For those just starting out, it is probably more useful to look at the most basic tools of the green woodworking trade, the axe and the froe.

AXES

There's an axe designed for every job and with a wide range of quality available, choosing one that is right for you can be daunting. The grind (the shape of the bevels each side of the cutting edge), head design, weight and handle length will all influence how an axe functions and what work it will do well.

A good place to start is a hatchet, a small single-handed axe with a head weight between 500 g and 900 g. Hatchets are used to 'blank out' a project into its basic form and to split smaller logs down using a wooden mallet on the poll (back of the axe head). Many older small hatchets from former British makers such as Elwell were of great quality, and with many examples still available, after some

restoration they can make a great option for that first axe.

Gränsfors Bruk are the Rolls-Royce of the axe world. Well made, they will last for ever, but be prepared to pay a little more for them. Hatchets from other makers (such as Bahco or Stihl) are usually less expensive and with knowledgeable regrinding and sharpening, can be tuned to work as a craft axe.

A good general-purpose hatchet should be suitable both for splitting and more precise work blanking out timber. Weight is important: 900 g–1 kg is perfect for a multi-purpose axe. The Gränsfors Bruk Large Carving Axe, for example, is really versatile. At 900 g it is a great weight for most people who want one axe to do many things. Due to its curious sloping backwards and upwards cutting edge, it's an axe that

will slice wood with very little effort. The double-sided version with equal bevels is the one to go for in the first instance, as it will be a more useful all-round tool.

If you want something a little lighter for smaller projects, try the 600 g Gränsfors Bruk Wildlife Hatchet or the 500 g Hultafors Hultån Hatchet. Neither of these are dedicated craft axes as such, but the equal bevels that are gently convex on the Gränsfors Bruk, make it a good choice for projects such as spoons and smaller bowls. Both are useful for preparing smaller blanks ready for the pole lathe, but some users may regard them as a bit on the light side.

There are some phenomenal hand-made axes from the likes of Hans Karlsson and Svante Djärv but a) they are difficult to get hold of and b) quite expensive. Bear them in mind when considering your second axe!

Remember, it is without question a joy to own a beautiful hand-made axe that performs faultlessly and feels great in the hand, but of equal importance is how an axe is tuned – in other words, how it is ground and sharpened, not to mention the skill with which the tool is used. Spending a lot of money on an axe won't always improve the quality of your work.

FROES

A simple ancient riving (splitting) tool, a froe is often used in conjunction with a cleaving break, a traditional device used to control the direction of the split in



smaller diameter logs.

Probably the best example of a froe in use is when making cleft ash or oak gates, which is a good test of one's skill. They can be used to bust down logs into billets for the pole lathe, for example, but an appropriate axe will probably do the job with less fuss.

I have found a robust froe to be indispensable when making riven oak fencing using substantial 8 in. diameter 8-foot-long logs. It helps to ensure that they are all of similar proportions. Traditionally, hazel is split with a billhook or a riving post, but a small froe is a great alternative.

Froes are available in all weights and sizes and are produced by many makers. Here are just a few of the best known:

Robust: Gränsfors Bruk Froe, Müller Froe 22 cm or 35 cm, Ray Iles XL Froe

General duty: Ray Iles Large Froe Premium

Small: Ray Iles Small Froe, Ray Iles Micro Froe

It's quite easy to abuse a froe if used on logs that are too big for the froe iron (and handle come to that), as the blade may well twist in relation to the handle socket. If you use a froe that is too thick on a smaller log, then the log may well open up too much before you have had a chance to correct the direction of the split. Most froes have a tapered handle socket, so that when they are bashed with a wooden

mallet it locks on tighter. However, the downside of this is when using a froe with a cleaving break, you can end up pushing the handle out.



MAURICE PYLE

A professional green woodworker for more than 25 years, Maurice runs Woodsmith Experience in the north-east of England, a unique business offering greenwood craft courses and specialist tools for woodcraft and small-scale forestry. www.woodsmithexperience.co.uk





MAKING A POT-HANGER

Craig Fordham of Black Wolf Survival & Bushcraft demonstrates how to make an adjustable pot-hanger set for cooking and boiling water over a small open fire.

What better way is there to enjoy your time in the woods than to be able to make yourself a hot drink on an open fire? Unlike the basic hang-a-billy-on-a-stick method, a notched pot-hanger allows you to suspend pots at different heights over the fire. It's more adaptable and versatile and will make cooking or boiling water more efficient.

Tools

The tools needed for this are absolutely basic: a saw and a knife. A Bahco Laplander folding saw is a favoured tool among many outdoor enthusiasts as it's practical, affordable and cuts well. You will also need a knife. A fixed blade knife is preferable for jobs like this, as it involves some heavier use and battoning (hammering); folding knives may fold up and break. Above all, make sure that it is sharp!

Materials

Choose whatever is to hand in the woodland. Green wood is easier to carve and won't burn as easily. I have used hazel.

You will need:

- One long straight pole, roughly thumb-thick and 60–90 cm long.
- One Y-shaped piece, thumb-thick, about 1 metre long.
- A couple of '7-sticks' (in other words a bit of branch with an off-shoot that can be cut to use as a hook). One needs to be thumb-thick and about 20 cm long; the other is roughly twice as thick and about 50 cm long.
- A flat stump or cutting block log.
- A wrist-thick piece of wood around 30 cm long for use as a baton.

1 Cut and trim the pieces to length using the saw. This does not have to be precise, but stick to the lengths noted above.

2 Use the knife to round or 'crown' the top edges of the smaller 7-stick, which helps stop the top fraying open when you hit it with a mallet or baton to put it into the ground. Note how I'm using my thumb on my other hand to push the back of the blade to help make controlled little cuts.

3 Use the knife to cut away the other end of the 7-stick into a spike sharp enough to poke into the ground. Don't make it too sharp, as it might break.



4 Next, take the longer 7-stick to make the pot hanger itself. Clean it up and cut it to length if necessary. To make the hanging sections for the pot, notch three separate 'beak' cuts into the large 7-stick at different heights. The cuts need to be made on the 'front' – the same side as the hook of the '7'. Lay the piece on the chopping block and then lay the knife blade against it diagonally across the width.

5 With the knife in your weaker hand to make battoning (hitting the back of the knife) easier, hold the baton in your stronger hand and use it to hit the back edge of the knife, driving the blade a good few millimetres down into the wood.





6 To free the blade, simply lift slightly and hit down on the stick. For the second cut, simply make a line through the first cut from the other direction forming a large X-shape and baton it in the same way. The result will be an even X-shape.

Repeat this whole process in two other points along the shaft of the 7-stick to give three separate and evenly spaced X-shaped cuts.

7 To create the beak cuts, use the knife to cut away the wood around the X-shape leaving just a triangle that points down towards the hook end. Take a bit of time over this – the beak cut needs to be notched enough to mate with a supporting stick. Repeat this process on the other two X marks so you end up with three beak cuts.



The finished beak cuts pointing down towards the hanger. Note the slight lip at the point of each cut.

CRAIG FORDHAM runs **Black Wolf Survival & Bushcraft** near Ashford in Kent. He is a specialist in survival and bushcraft, an organisational member of the Institute of Outdoor Learning and an approved archery instructor. Based in a beautiful woodland site, he teaches all over the UK and runs international guided trips and expeditions.



8 Next, take the long, straight pole and thin down about 5 cm of one end evenly with your knife.



9 Using the very tip of your knife, make a small divot in the end to help the beak of the large 7-stick sit evenly.



Assembling the pot-hanger system

10 Choose a fire site and drive the Y-shaped stick into the ground.



11 Slide the straight pole along the Y until you're happy with the length and the height. Then, drive the small, sharpened 7-stick into the ground at the end of the straight pole to hold it in place.



12 Set up the fire site at the other end of the stick. Take the large 7-stick and hang it from the end of the straight stick, making sure the divot sits well within the beak cut on the end of the stick. See how well it hangs and make any adjustments as necessary. It may well hang better with a cooking pot on it as the weight of the pot helps it balance



13 Once it all seems secure, light the fire, fill the pot with water and enjoy a cup of tea. As the fire dies down, it is easy to adjust the height of the pot by moving the straight hanger stick to a different beak-cut on the 7-stick.



A simple walk in the woods can yield untold benefits.

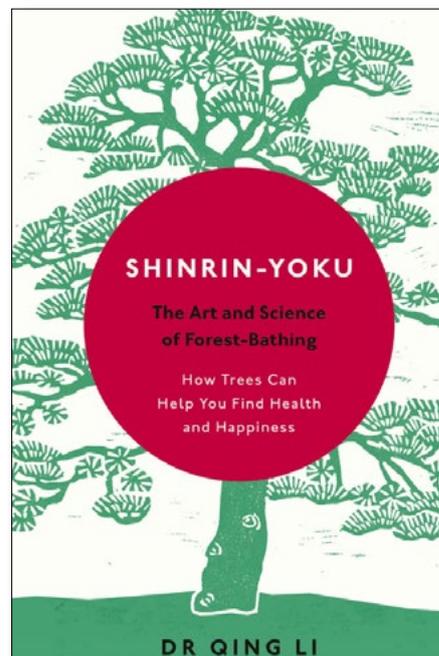
Matt Larsen-Daw dips his toe into the Japanese art (and studies the science behind) *shinrin-yoku*, or forest bathing.

**SHINRIN-YOKU
THE ART AND SCIENCE OF FOREST
BATHING**

Dr Qing Li
Penguin Life, 2018 RRP £12.99

Dr Qing Li states in his introduction to this heartfelt pitch for the personal and social benefits of forest bathing that he is 'a scientist, not a poet', but it soon becomes apparent that his passion for trees and woods is as emotional as it is academic. He reflects on the many attempts to convey the sensory experience of forest in art and literature, before illustrating how science can reveal exactly why it is so important to humans. He also unpicks how this knowledge is needed in today's society, and how it is being used in Japan and around the world to address real problems in modern society. The term *shinrin-yoku* (forest bathing) was coined in the 1980s, but after a huge injection of funding from the Japanese government into research to strengthen the evidence for the benefits and their causes, it has become a useful term to describe a methodology backed up by more than just a gut feeling that time spent deep in woodland (the essential principle of any forest bathing treatment) is helping us feel better in mind and body. Dr Li is uniquely qualified to give insight into the findings of this research, having led much of it himself.

There is a deceptively dense core of statistical data and scientific evidence at the heart of Dr Li's work, but his gentle conversational style meant that each time I put down the book after a spell of reading I was left with the impression of having taken a meandering walk through a beautiful wood with an erudite friend – an impression strengthened by frequent photos of sun-dappled woodland. Rather than working his way through each piece of evidence in turn, Dr Li meanders through his subject matter in a way that feels whimsical, introducing a topic and then taking an extended tangent into



Japanese history, a personal anecdote or an inter-related point before slowly working his way back round to the first point to add a layer of further detail.

I barely realised how much I was learning, but learn I did. One of the most fascinating subjects Dr Li explores is the role of phytoncides - active substances released by trees in essential oils to kill or inhibit the growth of bacteria and fungi. When we walk through a forest – especially a pine forest – the air we breathe is filled with these chemicals, and studies now show that these have a number of effects on human physiology. In particular, they prompt our bodies to create more 'natural killer' cells that form our bodies' best defence against harmful viruses and cancerous tumours. They also play a role in decreasing stress.

One experiment described by Dr Li involved circulating essential oils from pine trees in hospitals to monitor the impact on patients and staff. This yielded compelling evidence about the benefits of phytoncides, but could worry conservationists since it suggests ways to replicate the benefits of trees in a way that requires neither healthy woods nor time spent among trees. Luckily the

wider research makes it clear that there are simply too many complex factors at play when one is immersed in forest for any artificial re-creation to be as valuable as the real thing. Fractal shapes, natural sounds, oxygen-rich air, and even the colour green can all be shown to bring benefits. It is immersion in a real forest that our bodies and minds crave.

I began reading with a nagging concern that this book would build a barrier of jargon between me and an experience I already value. However, I ended up more inspired than ever to get back out into the woods as often as I possibly can. I was also convinced of the value of quantifiable scientific evidence for the benefits of time in woodland, given that this has allowed

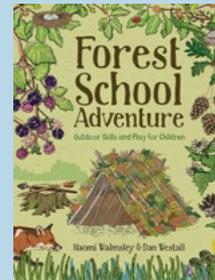
the Japanese government to justify the expense required to design and deliver a programme addressing tangible social problems even if the 'treatment' itself is no more complex than spending time in woods and experiencing the very same benefits that nature lovers the world over already enjoy. I only hope that other governments can be just as inspired, and that if nothing else it persuades them of the importance of accessible woods that allow everyone in society to experience these life-enhancing benefits.

Matt Larsen-Daw was Project Lead for the Tree Charter that launched in November 2017. He now works at WWF-UK.

NEW & NOTED

FOREST SCHOOL ADVENTURE

Naomi Walmsley and Dan Westall



An extensively illustrated book packed full of practical ideas and suggestions to get children immersed in woodland fun, with activities

ranging from erecting a tarp shelter, to making fire by rubbing two sticks together and on to plant identification. It's a book that will bring adults and children together as they learn new skills.

The authors are bushcraft experts, dedicated to sharing their expertise and passion with a wide audience.

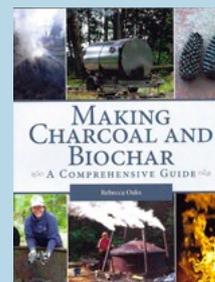
Publication June 2018 by GMC

Publications. Review in our next issue.

MAKING CHARCOAL AND BIOCHAR

A comprehensive guide

Rebecca Oaks



An expert in coppice crafts, Rebecca Oaks demonstrates a wide range of possibilities for making charcoal both on a small scale and for

commercial production. This is a really comprehensive and well-illustrated guide aimed at the interested amateur. It not only covers the practical aspects of the process, but also discusses the heritage of charcoal burning, as well as biochar – widely heralded as the 'super-substance' of the future.

Published by the Crowood Press

April 2018. Review in our next issue.

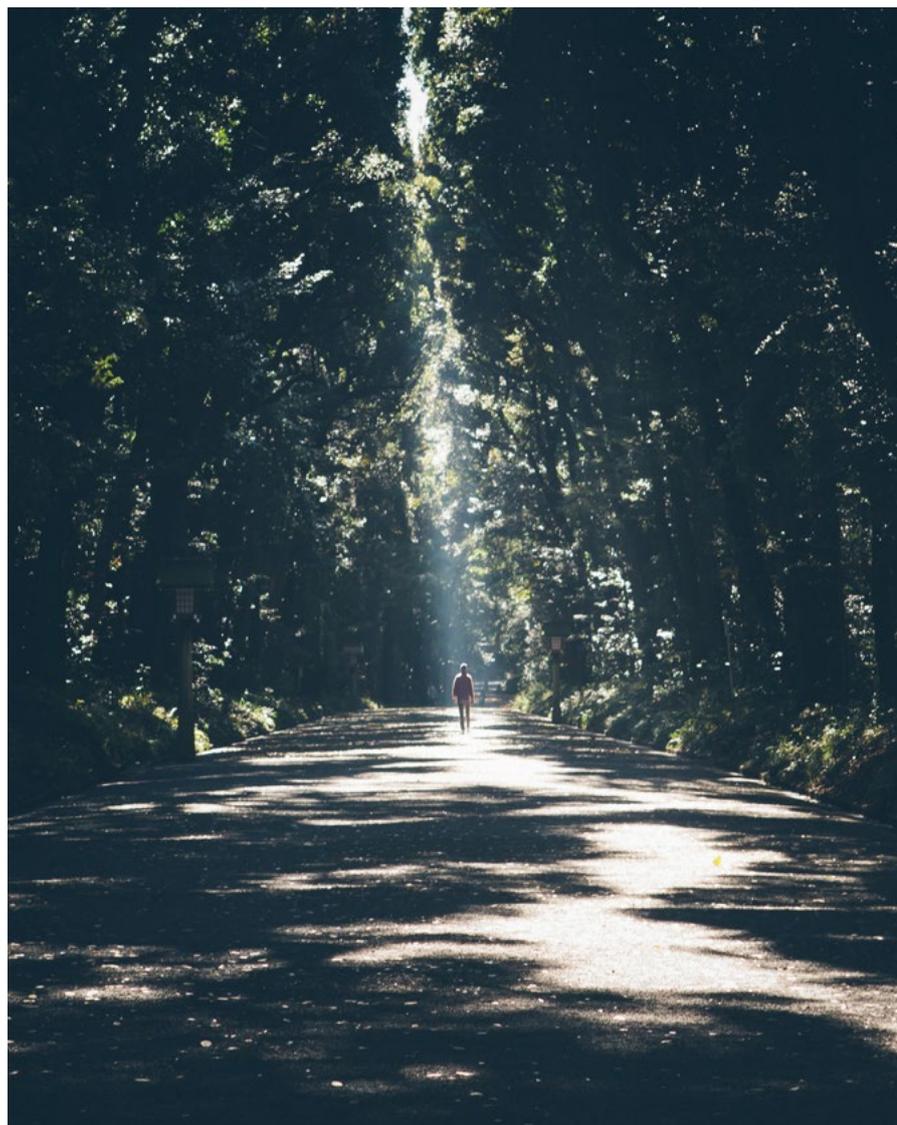


PHOTO BY FREDDIE MARRIAGE ON UNSPLASH

SYMBOLS IN TREES

Clare Gibson examines the enduring symbolism inherent in that most British of trees, the oak.

Look at a mature oak, and it is easy to understand why such mighty members of the *Quercus* genus have long been regarded as symbols of endurance and strength. English or common oak is *Quercus robur*, and, tellingly, the Latin word *robur* means ‘strength’.

The oak has additional associations with provision, prosperity and protection. Its reputation for providing derives from the hardness, durability and usefulness of its timber, initially for sparking fire and later for fashioning weapons, housing, ships, furniture and more besides. The abundant acorns on which pigs traditionally gorged themselves account for its link with prosperity. And the shelter that its branches or hollowed trunk provide accounts for its protective qualities, epitomised by the Major Oak in Sherwood Forest and the Royal Oak in Boscombe Wood.

The oak’s supposed lightning-attracting properties gave it further symbolism as the special tree of such powerful sky gods as the thunderbolt-hurling Zeus/Jupiter, of the Graeco-Roman pantheon, and equally forceful thunder deities like the Norse Thor and Germanic Donar. As well as being a symbol of masculine might, the oak represented courage: in ancient Rome, soldiers who had saved lives in battle were crowned with oak leaves (which is why many military insignia incorporate oak leaves as a symbol of bravery). Oak wood was once thought to be incorruptible, which, along with the tree’s longevity, caused it to become a symbol of immortality, which may explain why oak has traditionally been preferred for coffins.

In pre-Christian times, the oak was a focus of spiritual veneration. In his *Natural History*, the Roman writer Pliny recounted how Druids in Gaul performed their sacred rites in oak



ABOVE Charles II hides in the Royal Oak in Boscombe Wood, as depicted on a 1912 Wills cigarette card. BELOW Bob Wilson's carving of an oak-leaf-faced green man.



groves. We can only speculate on the exact nature of pagan people’s elevation of the oak to sacred status, but it is clear from Christian texts that early missionary saints recruited converts by enlisting oak trees to demonstrate their god’s superiority over pagan deities and their symbols. In the 8th century, St Boniface felled the ‘Donar’s Oak’ at Geismar, in what is now Germany, helped by a ‘divine wind from above’. In the Christian worldview, the oak came to symbolise Christ’s moral and spiritual uprightness, as well as strength of faith in adversity.

Although Christianised, pagan festivals were never entirely eradicated, and we continue to mark the most significant points of the Celtic wheel of the year – especially the solstices and equinoxes – by focusing on the natural world. The summer solstice, or Midsummer Day, falls on 24 June this year (St John’s Day in the Christian calendar), and while all eyes at Stonehenge may be on the sun, the oak also has a significant part to play. Since the earliest times, it has been customary to light fires on Midsummer Day, in order to strengthen the sun, whose power will now start to wane, causing the days to become shorter and the nights, longer. Oak was the preferred fuel for Midsummer fires, its



The cap-badge insignia of the Essex Regiment shows oak leaves around a castle, symbolising strength and bravery.

connection with lightning suggesting that fire was stored within it.

In the realm of mythical symbolism, the oak tree's personification, the Oak King, is bested by his eternal rival, the Holly King, at Midsummer. Come the winter solstice, their positions are reversed as the sun starts to regain its strength, the days lengthen and the Oak King gradually attains his ascendancy again. The choice of oak and holly is obvious: the oak tree is deciduous, so appears to die in autumn and winter, while the evergreen holly bears red berries and thrives during this dark period. In spring and summer, by contrast, the

oak seems to come to life again and increasingly flourishes. In this context, the oak represents the natural cycle of birth, life, death and rebirth, which is why oak leaves are often prominent in depictions of the Green Man, an ancient spirit of vegetation.

In the Celtic calendar, *Duir* – 'D' in the tree alphabet – is the month of the oak (10 June to 7 July, encompassing Midsummer). The tree is at the height of its vigour at this time, culminating in the vibrant green 'Lammas shoots' the secondary growth of foliage, that catch the eye around the start of August. See them, and salute the king of the forest.



The veteran Major Oak in Sherwood Forest is between 800 and 1000 years old.

PHOTO: [HTTPS://WWW.FLICKR.COM/PEOPLE/MICHAELLOUDON/WIKIPEDIA](https://www.flickr.com/people/michaeloudon/wikipedia)

WOODLANDS AWARDS 2018



The Woodlands Awards celebrate and give due recognition to the wonderful and innovative things that are taking place in the woodlands sector year on year.

Awards categories

There are 14 awards categories, divided into two groups: awards for individuals (woodland owners and users) and awards for enterprises (woodland organisations, businesses, educational programmes).

Broadly, the categories of the awards have been chosen to promote best practice, to reward good work and innovation, and to inspire others.

Each of the categories has its own criteria for entry. Some (such as the Woodland

Photography Award) depend on individuals submitting their own entries. Some (such as Woodland Courses) depend on personal recommendations. Others still (such as Woodland Blogs) depend on a mixture of these.

**Deadline for submissions:
31 July 2018.**

Please email antony@woodlands.co.uk if you know a candidate (it can be you!) for any of the awards.

Prizes

The prizes will be a mixture of award certificates, woodland books and woodland equipment and/or tools – and recognition!

Full details about the awards, how to enter or how to recommend a winner, are on the [Woodlands.co.uk website](http://Woodlands.co.uk).

AWARDS FOR INDIVIDUALS

- Woodland Blogs
- Small Woodland Websites
- Woodland Photography
- Woodland Sculpture
- Woodland Tool Recommendations
- Whole Wood Owners' Coordinators
- Woodland Hair (and/or Beard)

AWARDS FOR ENTERPRISES

- Woodland Contractors
- Forest Schools
- Woodland Courses
- Community Woods
- Woodfair Trade Stands
- Woodland Books of the Year
- Regional and National Woodland Organisations

Events Round-Up

JULY

TIMBER FESTIVAL

6–8 July 2018
Feanedock, National Forest

GREAT YORKSHIRE SHOW

10–12 July 2018
Great Yorkshire Showground, Harrogate

GOOD LIFE SHOW EXPERIENCE

14–16 July 2018
Hawarden, Flintshire

STRUMPSHAW TREE FAIR

21–22 July 2018
Strumpshaw Fen, Norfolk

ROYAL WELSH SHOW

23–26 July 2018
Builth Wells, Wales

NEW FOREST AND HAMPSHIRE COUNTY SHOW

24–26 July 2018
Brockenhurst, Hampshire

WOODFEST WALES

28–29 July 2018
St Asaph, Denbighshire

AUGUST

SOUTH DOWNS SHOW

18–19 August 2018
Queen Elizabeth Country Park, Petersfield, Hampshire

WILDERNESS GATHERING

16–19 August 2018
West Knoyle, Wiltshire

STOCK GAYLARD OAK FAIR

25–26 August 2018
Sturminster Newton, Dorset

SEPTEMBER

WYCHWOOD FOREST FAIR

2 September 2018
Charlbury, Oxfordshire

BELMONT WOODFEST & COUNTRY FAIR

9–10 September 2018
Faversham, Kent

APF SHOW

20–22 September 2018
Ragley Estate, Warwickshire

BENTLEY WEALD WOOD FAIR

28–30 September 2018
Lewes, East Sussex

SURREY HILLS WOOD FAIR

6–7 October 2018
2018 Birtley House, Guildford

SUMMER COURSES AND WORKSHOPS

ICF

The Institute of Chartered Foresters and Forestry Commission England are delivering interactive woodland creation design workshops.
Details are here: www.charteredforesters.org

5 June The Cullompton Centre, Cullompton
6 June High Ashurst Outdoor Learning Centre, Dorking
11 June The Cedar Centre, Peterborough
12 June Green Woods Centre, Telford
27 June Myerscough College, Preston
28 June Scotch Corner Hotel, Darlington

RFS

Royal Forestry Society courses.
Prices are for members/non-members. For full details please visit the [RFS website](http://www.rfs.org.uk).

Essential Guide for Caring for your Wood

13 June Hampshire £55/£65

Tree Identification 29 June Bucks £55/£65

Llais y Goedwig

National Community Woodland Gathering 8–10 June
The Gathering is a mixture of support, discussion, visits and demonstrations – giving members a chance to connect or reconnect with the network, learn new skills and influence the future direction of Llais y Goedwig. Visit www.llaisygoedwig.org.uk for more details.

The Coppice Plot

Spoon-carving 7-9 September

Two-day course with camping included in a lovely Pembrokeshire woodland. £210

More details: www.thecoppiceplot.com

WITH THANKS

We are grateful to the woodland folk who have contributed their writing and photographs to this edition of Living Woods Magazine.

Froglife

www.froglife.org.uk

Bat Conservation Trust

www.bats.org.uk

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Black Wolf Survival and Bushcraft

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Keeper's Coppicing

Clare Gibson, aka

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WWF-UK

Maurice Pyle

Woodsmith Experience

David Alty, Chris Colley,

Antony Mason, Johnny Morris and the [Woodlands.co.uk](http://www.woodlands.co.uk) editorial team

Bob Wilson chainsaw carver

www.facebook.com.

Bobchainsawcarver/

