

Worcestershire **WILDLIFE**



Worcestershire
Wildlife Trust



We need your help to defend nature



It's been five years since the UK Government launched the 25 Year Environment Plan. Despite its guiding promise to 'leave the environment in a better state for the next generation' the plan has failed to stop the catastrophic loss of nature.

In February, the UK Government's Environmental Improvement Plan was published, setting out how they will achieve their manifesto commitment to 'deliver the most ambitious environmental programme of any country on earth'. However, the Office for Environmental Protection (based in Worcester) recently warned that the Government was not on track to meet any of its 23 environmental targets set out in the Plan.

With less than seven years left to meet the Government's target to halt the decline of nature by 2030, can this plan deliver a huge shift in action and ambition to reverse the chronic loss of wildlife?

A dramatic increase in funding is needed if the UK is to reach its target to protect 30 per cent of our land and sea for nature by 2030. Progress towards this target is painfully slow because Government funding for biodiversity is more than 10 per cent lower than it was a decade ago. We know that £1.2 billion extra each year is needed to restore nature. The Government must find new cash to do this – not just recycle existing funding under new names – but it appears to be hoping that the Environmental Land Management schemes will restore the nature we've lost. Government must scale up funding to match the ambition.

Colin Raven

Colin Raven, Director



Carl Harris



Amy Lewis



Wendy Carter



Chris Gomesali, 2020VISION

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Our promise to you
 We aim to meet the highest standards in how we communicate with you. If you want to change the way you hear from us at any time, just get in touch.

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Cover photo: Wendy Carter



Six ways to get involved with Worcestershire Wildlife Trust

Volunteer Could you donate your skills and time to help wildlife? We have indoor and outdoor tasks that we need help with.
www.worcswildlifetrust.co.uk/volunteer

Donate From purchasing land to protecting wildlife, exciting projects near you need your support.
www.worcswildlifetrust.co.uk/donate

Campaigning You can play a vital role in raising awareness and helping to create a Wilder Future.
www.worcswildlifetrust.co.uk/take-action-wildlife

Local groups Join one of our eight local groups to help make a difference and meet like-minded people.
www.worcswildlifetrust.co.uk/local-groups

Leave a legacy If you've had a lifetime's pleasure from nature, help ensure its future by leaving us a gift in your Will.
www.worcswildlifetrust.co.uk/legacy

Shop Check our online shop for cards, calendars and gifts – all proceeds help our work.
www.worcswildlifetrust.co.uk/shop

Our marvellous meadows

Thanks
to you

we're protecting
meadows for
wildlife across
Worcestershire



Worcestershire's wonderful meadows have a mix of flowering plants and grasses that are different and not found elsewhere, a result of geology and mild weather conditions. Meadows in the east and southwest are found on neutral soils whereas in the north, the Clent Hills area, the underlying geology provides neutral to acidic soils and springs that emerge onsite, determining the flora that exists there.

Only a small fragment remains of the

original meadows that once carpeted our county and, as they now exist in small pockets, it has been a priority for the Trust to take on old, species-rich grasslands. We also acquire fields where, through changes in management, we can increase species diversity by strewing green hay taken from nearby species-rich meadows.

We have just bought one of those special and unusual sites. The land at Romsley Manor Farm Meadows is

nearly 13 hectares of hillside neutral and acid grassland combined with marshy pasture fields. We have known about the site since the 2000s when it was managed under a non-intensive grazing system. After a change of ownership and altered management, species variety declined. When the opportunity arose in 2019 to buy the fields, we already knew enough about them and their situation to know it was an important acquisition.

Grasslands are often an under-appreciated habitat, which is unfortunate as they cover approximately a quarter of Earth's land surface and, with a view towards mitigating impacts of climate change, contain roughly 12 per cent of terrestrial carbon stocks.

Not all grasslands are equal, either ecologically or in terms of carbon storage. Many of England's grassy places are given over to grazing or recreation and these have often been reseeded with tough, agriculturally productive species such as perennial rye grass. The reduction of flora in a meadow that could contain over 200 different plants to a handful of very competitive species clearly has implications for wildlife; it's been estimated that a truly diverse wildflower meadow can support around 1,400 insect species.

The same is true of carbon storage, with an estimated three to five times more carbon stored in soils than vegetation. Flower-rich grasslands, which by their nature haven't been ploughed in the recent past, are significantly better than species-poor swards for carbon capture.

Stopping the decline

There is an oft-quoted fact that the UK has lost 97 per cent of its wildflower meadows since the 1930s. While it may be truer to say that 97 per cent have been agriculturally improved in that time – by activities such as reseeding, drainage and application of fertilisers all with significant damage to biodiversity – we do still find that in many places the damage is not total, presenting the hope that restoration remains possible, a mission that we at Worcestershire Wildlife Trust are passionate about.

Worcestershire is incredibly important for species-rich lowland meadows. In fact, we're home to almost 20 per cent of England's flower-rich meadows and pastures. This makes them a priority habitat for us to protect and we do this by owning and managing more than 30 meadows and working with landowners across the county to help ensure the survival of these precious places, which are still under considerable threat.

A special place

Our recent purchase of Romsley Manor Farm Meadows has been made possible by generous donations from the Banister Charitable Trust and the Idris and Margaret Jones Charitable Trust as well as donations from our members. Thanks to this incredible support, we can now begin the process of protecting and restoring this special haven for wildlife.

The reserve, within sight of the Birmingham conurbation, is made up of nine fields, an ancient trackway and a small pool. Located on the northeast facing scarp of the Clent Hills, two kilometres from our Penorchard Meadows nature reserve, it is 12.94ha (32 acres) in size, of which about two thirds are a Site of Special Scientific Interest (SSSI). The mix of neutral and acidic soils support an exciting mix of hay meadow species, such as knapweed and bird's-foot trefoil, along with traditional grasses like crested dog's-tail. The lay of the land gives us springs and marshy areas in the lower ground, dominated by rushes and covered in common spotted orchids. Due to the slope and differing soil types and wetness, every field is

subtly different and it is this diversity that makes it such a valuable place.

The site has recently been in ecological decline as low intensity grazing by cattle has dropped off in the wetter areas, while the higher, drier ground has seen more heavy use by horses. Necessary infrastructure such as fencing and the water supply are also failing. On the positive side, the hedges have been unmanaged and scrub has colonised some areas, creating potential for high numbers of breeding farmland birds such as whitethroats and yellowhammers. The damp flushes should be amazing for insects and putting in place a monitoring system is one of our early jobs, alongside restoring a beneficial grazing regime by restoring fences and working with a local farmer.

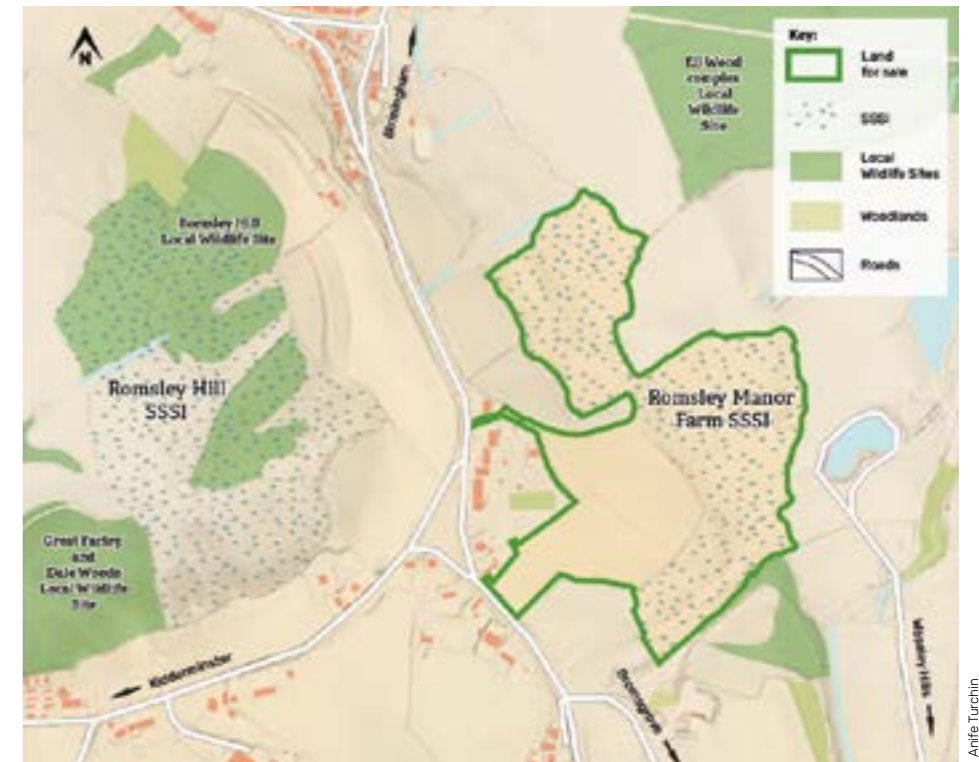
Reconnection

Just as important as its standalone wonders are the opportunities Romsley offers to reconnect the surrounding landscape and create rich corridors for wildlife to live in and move through. The Trust is committed to helping transform 30 per cent of land and sea for nature by 2030 (30 by 30). It is important to create biodiverse hotspots for wildlife to spread from as well as stepping-stones and direct links that allow the colonisation of new areas as wildlife moves and adapts to a changing climate.

Romsley sits in a potentially habitat-rich landscape, with Ell Wood Local Wildlife Site next door to the northeast, the Clent Hills National Trust land nearby and Romsley Hill Farm SSSI to the west, leading on to our own Penorchard Meadows just a hop, skip and a jump away.

Romsley Manor Farm Meadows will not generally be open to the public as it is ecologically very sensitive and parking and access is poor. We will, however, run events to introduce members to the site and we will be recruiting volunteers to help us look after this wonderful place.

Thank you again for supporting the purchase of these marvellous meadows and we look forward to updating you about how it develops.



To help wildlife at Romsley Manor Farm Meadows we need:

- 4,136m** of new or repaired fencing.
- 2** new sleeper bridges.
- 620m** of water pipework.
- 14** new or repaired gates.
- 7** new cattle grazing troughs.

An illustration of a brown cow grazing in a field, with a fence and a trough in the background.



Jon Hawkins, Surrey Hills Photography

Anife Turchin

Mike Perry

Local news



Rejoicing for Romsley Manor Farm Meadows

In November, we received wonderful news of a major donation of £225,000 from the Banister Charitable Trust that enabled us to complete the purchase of Romsley Manor Farm Meadows just before Christmas.

The meadows are located just outside the village of Romsley, in the northeast of Worcestershire, and cover 14 hectares (35 acres) across nine fields, six of which are designated as a Site of Special

Scientific Interest (SSSI). They contain neutral and acidic heath grassland, both of which are rare habitats in Worcestershire and nationally.

In addition to the wonderful donation from the Banister Charitable Trust, who have supported the Trust with the purchase of several nature reserves, we are also indebted to the Idris and Margaret Jones Charitable Trust for their donations of over

£33,000 as well as a number of members and other supporters. As ever, we extend our thanks to the Esmée Fairbairn Foundation who purchased the meadows in 2019, which gave us the time to fundraise to complete the purchase from them.

Find out more about this special place on pages 4–7.

Raising a glass to Wildjac

Huge thanks to Bewdley-based Wildjac who donated £6,740 to the Trust as part of their commitment to the 1% for the Planet initiative. Wildjac produces a range of gin, rum, vodka and non-alcoholic drinks that are sold both in Worcestershire and further afield.

Aster, Wildjac co-founder, who joined us for a day planting hedgerow trees at Dropping Well Farm, explained 'Wildjac are proud to support Worcestershire Wildlife Trust as they provide vital support and education on protecting wildlife and fragile habitats as well as manage local landscapes such as Dropping Well Farm, which is situated very close to our site.'

'Through our partnership we have learnt so much about the way we can all play our part in protecting the environment and are looking forward to more exciting events and campaigns throughout 2023.'

Wildjac have also provided us with a fantastic prize for the Trust's annual raffle.

Find out more about Wildjac <https://wildjac.co.uk/>

Find out more about how your business can support our work www.worcswildlifetrust.co.uk/corporate-support



A raven thank you

Following on from the piece about ravens in our winter magazine, we'd like to say a big thank you to everyone who got in touch to let us know about ravens in their area. Mike Metcalf, who is mapping Worcestershire's ravens,

had more than 20 responses, which included breeding sites that were new to him.

If you have ravens near you, Mike would love to hear from you mikebirder@hotmail.com



Aster from Wildjac

Elections to Trust Council

Elections to the Trust's governing body will take place at the AGM on Wednesday 11th October 2023. Nominations must be made on the nomination form, obtainable from the secretary or director at the Trust office by no later than Friday 9th June 2023. Nominations will require six proposers who are members of the Trust. Details of members standing for election or re-election will be circulated to all Trust members with the summer issue of Worcestershire Wildlife.

To find out more about becoming a trustee, see page 34.

Events near you

- Illustrated talk: *Amphibians and reptiles of the UK*, Friday 24th March, St Saviours Church, Hagley.
- Guided walk: Pound Green Common, Sunday 16th April.
- Illustrated talk: *Great Malvern's Woodford Meadow*, Thursday 4th May, Lyttleton Rooms, Malvern.
- Guided walk: Eastnor Deer Park, Thursday 11th May.

Visit www.worcswildlifetrust.co.uk/whats-on for information about all our events and details on how to book.



We bet you didn't know

When male broad-bodied chasers 'colour-up' after emerging, they turn blue. The colour consists of tiny particles of fat that are arranged like roof tiles on the body. This fat wears off over time and the original yellow colouring can eventually be seen.

Take a picture and let us know if you spot one www.worcswildlifetrust.co.uk/wildlife-sightings

Digital magazine

If you'd like to try our magazine in digital format, a pdf is available to download from our website www.worcswildlifetrust.co.uk/magazineMar23. There's a short form on the website for you to let us know how you'd like to receive future issues of the magazine.



Photo competition

You've still got a few weeks left to get snapping or to sift through your photos for what could be a winning image.

Whether you've got a wildlife-filled garden, a nature-rich local greenspace or have been soaking up the wild on our nature reserves, we're looking for your photos of Worcestershire's wildlife and wildlife-friendly places to feature in our 2024 calendar.

Send us six of your best by Tuesday 11th April. Find out more and enter on our website www.worcswildlifetrust.co.uk/photography-competition

Have we got your correct details?

If you've moved house or even changed your phone number or email address, did you let us know? As well as mailing out your magazine, we may need to get in touch with you regarding your membership.

You can easily let us know of any changes via our short form on www.worcswildlifetrust.co.uk/update-details

Keep updated

Want to know what the Trust is up to each month? Fancy learning more about how to help wildlife where you live or what wildlife to look out for? Why not sign up to our monthly e-newsletter www.worcswildlifetrust.co.uk/e-newsletter

Thank you

A huge thank you to all the wonderful local businesses who raised over £3500 for the Trust by selling our cards and calendars this year! Our thanks go to Clive's Fruit Farm, Gwilliams Farm Shop, Revills Farm Shop, Upton Snodsbury Post Office & Stores, Pump House Environmental Centre, The Hop Pocket, Alfrick Community Shop and Forge Mill Needle Museum.



Thank you! We couldn't help wildlife without you!

94 acres/ 37.6 acres purchased by the Trust in 2022 for nature.

3,820 trees to be planted at Green Farm, which you helped us buy in 2022.

3,081 acres now owned and/or managed by the Trust.



30 Days Wild

We know that many of you choose to go wild every day but when you sign up for this year's 30 Days Wild, which takes place throughout June, you'll receive a pack of goodies and regular emails to inspire you to make nature a part of every day life.

Sign-ups open in April – don't forget to go wild www.wildlifetrusts.org/30DaysWild

UK news

UK UPDATE

The Great Big Nature survey launches

To help us understand how much nature matters to you, The Wildlife Trusts are launching the Great Big Nature Survey this spring. We want to hear your views on some of the most important issues affecting nature and wildlife as well as your relationship with the natural world. How often do you get out into nature? Should people try to control nature to better protect it? How important are green spaces to you? What roles should people, business, and government have in looking after nature? Should local communities be at the centre of nature conservation on their doorstep?

Whatever your views on nature, however important (or not) it is to you, make your voice heard by taking the Great Big Nature survey today.

With respondents from a variety of backgrounds and with many different experiences in and views of nature and wild places, the Great Big Nature Survey will reveal what people in the UK and islands really think about nature and how we, as a society, should protect it. Results will also help The Wildlife Trusts to hold governments to account over environmental policies and priorities.

After you've completed the survey, why not share it with your friends and family?



Take the survey at wildlifetrusts.org/great-big-nature-survey or scan the QR code.



Plotted plants

The Wildlife Trusts are co-sponsoring production of the Botanical Society of Britain and Ireland (BSBI) Plant Atlas 2020, which is published this March. The Atlas is based on more than 30 million records collected by thousands of botanists between 2000 and 2019, providing an unrivaled

picture of the changing distribution and fortunes of plants in Britain and Ireland. This knowledge is likely to provide evidence to help us protect nature across the UK.

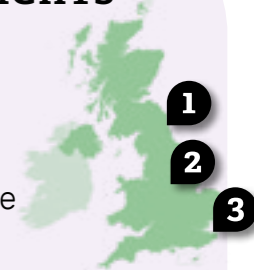
Find out more bsbi.org/atlas-2020



Ragged robin has declined due to habitat loss

UK HIGHLIGHTS

Discover how The Wildlife Trusts are helping wildlife across the UK



1 Hen party

The Northumberland Hen Harrier Protection Partnership, of which Northumberland Wildlife Trust is a member, announced a bumper breeding year for hen harriers in the county. Last year the partnership monitored nine nests, seven of which were successful – fledging a total of 26 chicks. This is eight more than in 2021 and brings the total since 2015 to 106 fledged birds. wtru.st/26-harriers

2 Give peat a chance

Derbyshire Wildlife Trust has been awarded a £100,000 Discovery Grant by Natural England to protect and restore the county's peatlands. Peatland is a vital habitat, not just for wildlife but also for storing carbon. The grant will allow the Wildlife Trust to identify mechanisms to restore the region's peatlands, so they can absorb and lock away carbon. wtru.st/Derby-peat-grant

3 Mr Blean

Kent Wildlife Trust has welcomed a male bison into the herd at West Blean and Thornden Wood. The bull's arrival was delayed by post Brexit complications, but he has now joined the three females that were released in July and the calf born in September. The bison have 50 hectares to roam as part of the Wilder Blean Project, a joint wilding initiative. wtru.st/bison-bull



The greatest show in earth!

Top 5 tips to take care of the microbes

1. Ditch the chemicals
2. Stop digging your soil
3. Feed microbes good quality compost
4. Avoid bare soil – use mulch
5. Use cover plants (microbes love root exudates)



Eddie Bailey, WWT member. A geologist and soil food web specialist who runs workshops for growers of all abilities.
www.rhizophyllia.co.uk

It is estimated that at least 85 per cent of plants form a symbiotic relationship with fungi; the Douglas fir alone is found to associate with over 1000 different species of these so-called 'mycorrhizal' partners. Myco = fungi and rhizo = root, recognising where these fungi enter the plant. It is thought that the fungi are recruited by the plant to dramatically extend the nutrient-gathering network of its roots; in return the fungi find refuge and a rich supply of carbon sugars from the plants' photosynthesis factory.

This analysis, though, only scratches the sub-surface. The mycorrhizal network is but one part of a vast underground microbial metropolis, the 'soil food web'. Together with bacteria, archaea, protozoans, nematodes and microarthropods, they fix, cycle and shuttle nutrients, supply water, produce and share a mind-boggling array of plant growth promoting hormones and secondary metabolites such as vitamins, enzymes and antibiotics, and send signalling compounds to anyone connected to the community to warn of disease or attack.

Over the last decade researchers have discovered that the tissues of every single plant group studied are occupied with bacteria of a multitude of species, each bringing their own special skills to assist the plant that hosts them. They are referred to as 'endophytes'; *endo* = inside, *phyte* = plant.

This all leads to two very important questions: how did all this come about and what is this telling us when it comes to growing food and gardening?

Growing back in time

To answer the first question, let me take you back in time, some 480 million years to the early parts of the Ordovician period!

The world was a very different place. The continents were arranged into two huge land masses; the largest, Gondwana, spanned the south pole and to the north lay the super-continent of Laurentia.

Southern Britain occupied the eastern portion of a thin 'raft' of crust, named Avalonia, being dragged from the northern edge of Gondwana by tectonic forces.

Worcestershire formed a low-lying, inland environment, a mosaic of bare rock dotted with screes and pockets of sand and gravel. Freshwater pools and lakes would have glistened with green algae. Damp and humid corners were filled with 'embryophytes' (embryo = earliest stage) such as ancestor liverworts and hornworts. The fact that they could live out of water, to avoid desiccation and still find nutrients, was thanks wholly to symbiosis with terrestrial fungi that sneaked in through the plant's root-like, sprawling rhizoids.

Roll forward 30 million years and a dramatic radiation of 'sac' fungi, or Ascomycota, had prompted the largest-ever diversification of plants that now carpeted the land. This included the tracheophytes – the ancestors of all modern vascular plants, those with conducting tissues like xylem and phloem. By the end of the Ordovician Period some 443 million years ago, the fungi and plants had sequestered so much carbon from the atmosphere that they triggered a global glaciation. Such is the driving power of the microbe!

As fungi, bacteria and organic

matter spread, so too did an extensive 'food-web' of amoebozoans, flagellates, collembolans, mites, myriapods, arachnids and nematodes in a fast-developing, true soil.

By the middle of the Carboniferous period, 330 million years ago, huge forests of seed-bearing plants had evolved and with them the Basidiomycota (mushroom-type) fungi. By the end of that period, roots and thus true mycorrhizae appeared. Pines followed at the end of the Jurassic period and flowering plants in the Early Cretaceous, both groups able to exploit a myriad of geographic niches and substrates thanks to newly evolved mycorrhizal forms.

At each turn of plant diversification, the fungi, bacteria and friends were there to help.

Taking care of the microbes

All of which neatly brings us to today and the microscopic biological diversity beneath our feet, in the forests we walk, the lawns we sit on and within the soils

we grow our food in. Bacteria and fungi have been inventing and developing life processes and substances for over 3.5 billion years. Indeed, plants (and we) exist because of them!

Soil food web microorganisms have been working with land plants, adapting and perfecting their symbioses, for over 480 million years. That must tell us something when we reach for the chemicals in the garden shed that kill them or adopt the practices that ruin their habitats, like digging or ploughing.

It's simple really; plants rely fundamentally on the microorganisms for their food and water. Why should plants spend vital energy reinventing the wheel when bacteria can fix all the nitrogen they need, or solubilise phosphorous, or provide essential metals like copper and iron?

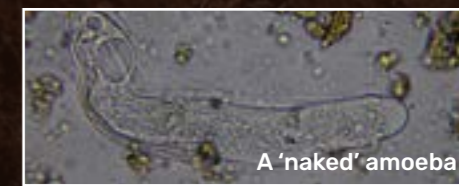
The lesson is simple; take care of the microbes and they will take care of your plants... and you!



An arcella amoeba



A saprotrophic fungal hyphae



A 'naked' amoeba



Fungal mycelium in woody compost



A bacterial-feeding nematode

Main photograph by Pixelsatwork; inset photographs by Eddie Bailey

Worcestershire's nature reserves

As we enter the nesting season and our meadows and treescapes burst into flower, it's tempting to think this is the time to sit back and enjoy the fruits of our labours and simply enjoy the spectacle that are our nature reserves in spring. While we should definitely all do that (and spring on a Worcestershire Wildlife Trust reserve is a glorious thing), we have plenty to keep us busy and 2023 is shaping up to have a lot of projects to help wildlife.

Greening Green Farm

We've been keeping you updated over the last two years about the campaign to purchase land at Green Farm, adjacent to Monkwood. You'll have read in your winter magazine that, with your donations and a major grant from the National Lottery Heritage Fund, we bought the land at the end of last year. Thank you all for your support! Raising the money to purchase the site is no

small feat but from a management point of view we have just been keeping things ticking over until we had full control of the site. Now we are beginning the changes on the ground.

Our first priorities are to install a water supply, fencing and gates as well as a small bridge that will allow us to get vehicles around the reserve more easily. We'll also be replacing several stiles along the public rights of way with easier to access gates. At the same time,

we will have a part time project officer to help get local schools and community groups involved with the development of the reserve. By winter we should be planting new, thick, connecting hedges, an orchard and areas of wood pasture. By the following winter we should have planted over 3,600 saplings, creating new connections and habitat for dormice, birds and butterflies.

Heather spreading

We'll be running the Green Farm project alongside our current Dropping Well Farm development, which began just over a year ago, and we've achieved some great milestones there recently. One of the most exciting has been the collection of heather seed from the neighbouring The Devil's Spittleful reserve to spread across parts of Dropping Well Farm and neighbouring Blackstone Farm Fields.

Calluna vulgaris, or common heather, is the iconic plant of heathlands and, in common with other heathland species, it requires very nutrient-poor sandy soils. Prior to our purchase in 2007, parts of the Blackstone fields had been intensively farmed, requiring the application of fertiliser to make them agriculturally productive. While it may have been possible to try and transform the land by applying sulphur to increase the acidity of the soils, we decided to

take a gentler approach to stripping out those nutrients over time, as we believed the ecological transition was just as important as the final destination.

We expect the journey to heathland to take decades but it is still exciting that we have now reached a point where we think the soils are, in places, ready to begin that transformation. We already have some heathland plants appearing but with the strewing of the heather seed on parts of Blackstone, and a small area of Dropping Well Farm, we will hopefully begin a visual transformation into this sandy landscape as well as providing a fantastic nectar-rich food source for heathland insects.

We are already seeing the benefits of our work at Dropping Well Farm but the project goes beyond the boundaries of the reserve. One of our aims is to help people understand the wonders of this habitat and give them the tools and enthusiasm to become champions and activists for wildlife. Pupils from two local schools, Bewdley School and Birchen Coppice Academy, are getting involved to understand more about the site, with students from Bewdley School joining us for practical tasks on site and a dawn chorus walk. Our own youth organisation, Outdoors Origins, South Birmingham College and local companies such as Siemens Energy have helped us to plant over 3,000 hedgerow trees and, of course, our trainees have been working hard monitoring species, helping with the hedges and fixing gates and fences.



Paul Lane

Small change, big difference

One of the challenges our reserves face is how we adapt to a changing climate; planning for possible impacts as the home ranges of species move with temperature increases, possibly losing some existing plants and animals as they are pushed north and gaining new species as they take advantage of new opportunities. It is hard to predict exactly what effect climate change will have on our reserves but one of the things we are doing is to create a range of habitats where we can. This ranges from small-scale creation of wet areas, increased scrub and woodland areas around meadows and flower-rich open areas in our woodlands. A good example of this is the recent creation of a scrape, at Lower Smite Farm.

A scrape is not a pond, just a shallow depression in an open area with the topsoil literally scraped off to create an area that may just be wet during winter or periods of particularly heavy rainfall. Occasionally-flooded areas are great for insects that can breed in wet muddy areas without getting eaten by fish that will establish in permanent ponds. In addition, periodic flooding can also push up worms and other soil inhabitants to the surface, providing a sudden food bonanza for visiting birds. Combined with some widening of ditches by the scrape, we are also providing temporary flood water storage to reduce the extremes of water levels caused by more intense rainfall in the Barbourne Brook

catchment. This is a small intervention that can create big benefits and help future-proof Lower Smite Farm in a changing climate.

Monoliths

To keep our reserves as safe as possible, where we the most visitors we continue to have to take down ash trees that are succumbing to ash dieback. In some cases, we just remove the weight of the branches to create a single trunk, with an artificially frayed crown at the top of the stem to mimic natural storm damage. The tree may be dead but it remains a great habitat for insects, nesting birds such as woodpeckers and bats that will roost under the flaking bark. Observant visitors to The Knapp and Papermill may spot some of these magnificent monoliths on the main trail beside the river.



Rob Allen, WWT Reserves Team Leader. Rob cares passionately for wildlife and has spent his career trying to reverse ecological decline.



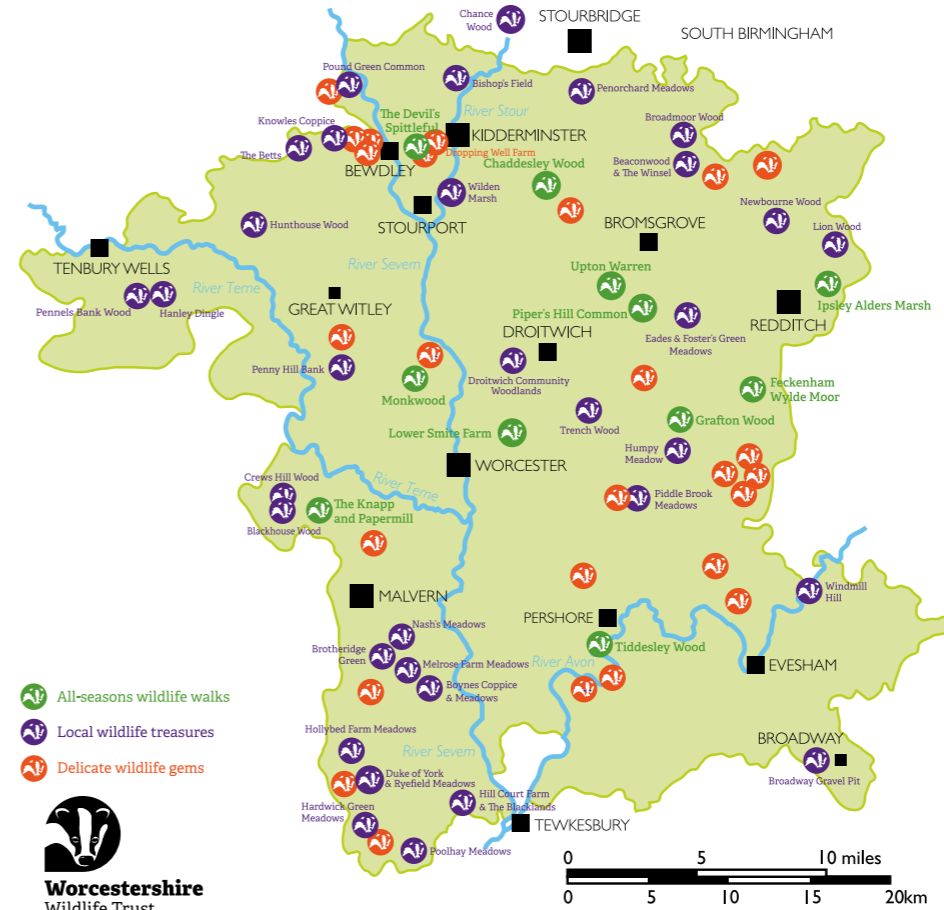
Tom Marshall

HIGH FIVE HIGHLIGHTS

Photos by: Adrian Hodges, Ric Harding, Wendy Carter, Ann Fells, Dave Hull.



1. Brimstone butterfly – nectaring on early flowers in a hedgerow.
2. Cow parsley – along road verges and footpaths.
3. Early bumblebee – feeding on flowers in your garden.
4. Pyramidal orchid – in flower-rich grasslands.
5. Redshank – on a shallow wetland near you



Interested in volunteering? Visit www.worcswildlifetrust.co.uk/volunteer for more information and details on how to get in touch with us. Follow our trainees www.worcswildlifetrust.co.uk/blog/conservation-trainees

Worcestershire's spectacular solitary bees

You might be amazed to learn that there are more than 270 species of bee in the UK. They come in all shapes, sizes and colours and many bear little resemblance to the common image of a stripey black and yellow, fluffy insect. Our familiar bumblebees live in colonies, working together for the good of the whole. Solitary bees live differently, with females providing

food for their own offspring in nest holes in soil, wood, plant stems and even brick walls. In some bee species, sneaky females steal into other bees' nests to lay their own eggs; their young kill the original bee's offspring and gorge on the pollen left behind. Many can be found in your garden and local green space if you've got a moment to look.

Find out more www.worcswildlifetrust.co.uk/wildlife-explorer/invertebrates/bees-and-wasps



Wendy Carter, WWT Communications Lead is a naturalist with a passion for bees and other invertebrates



Gooden's nomad bee *Nomada goodeniana*

Mostly hairless and often boldly marked, this genus of bees is often mistaken for wasps. You may spot a Gooden's nomad bee covered in pollen after foraging in dandelions or umbellifers. Their bold black and yellow pattern can help you find the nests of other bees. Females lie in wait, aiming to locate mining bee nests – when the coast is clear, they nip in to lay their own egg, just like a cuckoo.



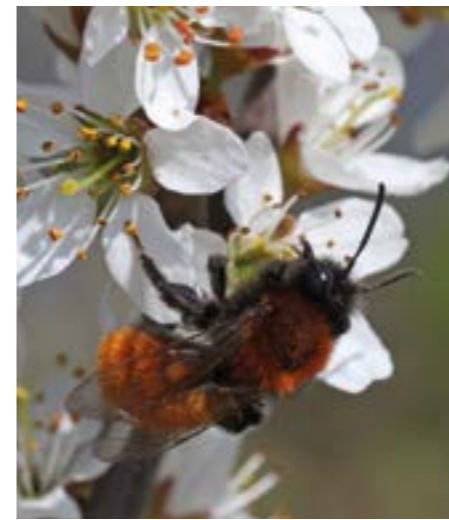
Hairy-footed flower bee *Anthophora plumipes*

Zooooommmmm... zooooommm! Have you spotted a small furry insect streaking past you at a rate of knots? If you've got lungwort, dead nettles, rosemary or alkanet in your garden, stop and take a look (and listen). Females are black with fluffy orange-haired back legs where the pollen is trapped. Males are gingery with creamy-yellow faces and long hairs on their middle legs that give them their common name.



Red mason *Osmia bicornis*

A common resident of bee boxes located in warm, sunny spots, red mason bees also make the most of gaps in crumbling mortar. Females construct nests from earth so look in nearby flower beds and plant pots after its rained to spot them gathering mud between the two small 'horns' on their face. If a bee in a cell at the back of the nest wakes first, it chews through the wall and bites the bottom of the bee in front to wake it up!



Tawny mining *Andrena fulva*

A member of the largest group of bees in the UK, all of whom nest in the ground (from flower beds to sandy cliffs). The honeybee-sized females are one of our more distinctive bees, with a thick coat of the fox-furriest tawniest colour. To complete this ballgown of an outfit, the females have black face and legs. Look for the smaller, less-bright males with an Einstein-like silver moustache.



Ashy mining *Andrena cineraria*

A very distinctive bee that is one of the first to emerge in spring. As with many solitary bees, the female is larger and more conspicuous, although both sexes have silver-grey hairs on the thorax and face along with a shiny blue-black abdomen. Look for their mini-molehill nests in lawns, short turf and bare ground; sometimes they can be found in very large aggregations.



Wool carder bee *Anthidium manicatum*

Lamb's-ear (Stachys) and woundwort are favourites of this distinctive species with yellow spots on the edge of the abdomen. The name derives from the females' ability to card fibres from woolly or fluffy plants to use in nests. Unusually, males are bigger than females and have spines at the end of their abdomen that they use to protect both territories and females.



Ivy bee *Colletes hederæ*

This late season mining bee has only been in Worcestershire since 2013 and gets its common name because females gather only ivy pollen to provide food for their young. Nesting aggregations, often in lawns or flower beds, can number in the thousands. There's no need to panic, though. Like all bees, it's only the females that sting and the sting of solitary bees is usually too weak to pierce our skin.



Patchwork leafcutter *Megachile centuncularis*

Ever spotted semi-circles missing from your rose leaves? Enter our leafcutter bees. Sit by a bee hotel for long enough and you may be lucky enough to spot a female patchwork leafcutter bringing home a leaf to line her nest cells with. Look closely and you'll see that, like red mason bees, these brown medium-sized bees have a 'brush' under their abdomen to collect pollen.



Pantaloons bee *Dasypoda hirtipes*

The star of Worcestershire's heathlands; with the eponymous pantaloons-like pollen brushes decorating the back legs of the female, this is a bee that's hard to misidentify. They nest in sandy south-facing slopes and along paths. From midsummer, look for them foraging in yellow flowers like cat's-ear, hawkbits and ox-tongues. As well as aiding pollen collection, the 'pantaloons' also result in a fan-shaped spoilheap outside the nest entrance.

Bulb dwellers

Who'd have thought that a daffodil bulb would double as a des-res? For some of our most obvious spring hoverflies, bulbs are just that!

There are 283 species of hoverfly in Britain and a new one has been found every year in recent times. Many are familiar to us because of their bright colours and behaviour. Several species hover in mid-air in woodland rides, suddenly whizzing to another place. Others are common pollinators in gardens, feeding on pollen and nectar.

They are true flies – Diptera – with two wings and a pair of drumstick-like organs adjacent to the base of the wings, which are known as the halteres and help with balance. They're not all brightly coloured, many are small (3-5 mms long) and dark.

Hoverflies are better studied than most flies and the larvae of around two-thirds of species are known and described. All follow the sequence of egg, larva, pupa and imago (the adult flying stage). The larvae grow

through three stages (known as instars) as they shed their skins before pupating and reassembling themselves as adults. Hoverfly larvae often live on and eat parts of plants, living in stems or within roots, whilst others are predatory and voracious aphid eaters. Still others live in decaying wood, in water, rot holes or in or under tree bark.

If you fancy yourself as a Wordsworth with a host of golden daffodils, several hoverfly species may spoil just a little of your fun as their larvae can develop in the bulbs, damaging them in the process. The greater bulb (or narcissus) fly *Merodon equestris* is an introduced species that was first recorded from narcissus bulbs imported from Europe in 1869. It is now widespread in gardens but apparently not in wildflowers such as bluebells and snowdrops. The lesser bulb fly *Eumerus funeralis* is also an introduction, recorded first in 1915 from narcissus bulbs. The larvae of

another similar species, *Eumerus strigatus*, may live in wild allium bulbs or other roots. However, the damage caused by bulb fly larvae appears to be secondary; some damage is needed for entry and the larvae scrape at tissues, damage is then caused by bacteria that may break down bulb tissue. The larvae grow most rapidly in a mixture of fresh and decaying bulb tissue as they tunnel in the bulb.

The native garlic hoverfly *Portevinia maculata* is closely associated with ramsons (wild garlic) and is only found with this plant. The larvae mine the bulbs as stem bases. Adults emerge when the ramsons flower. The males are often obvious flying around the plant tops while the females skulk amongst the leaves.



Harry Green, WWT trustee is a life-long naturalist and ornithologist.



Narcissus fly
Merodon equestris



Ramsons hoverfly
Portevinia maculata

Feeling weedy

Weed. This small word immediately conjures up images in the mind and these images are, more often than not, negative. Many are even given negative names to mirror our feelings about them; think of swine-cress, hogweed, silverweed and cudweed. If ragwort was called 'golden glory' or 'sunshine flower', maybe we would hold it in higher esteem. Two of the Trust's botanists, Jasmine Walters and Becca Bratt, take a closer look:

We all know what weeds are, don't we? They are those pesky plants popping up unannounced and unwelcomed between our paving and in our gardens. They do this because they have a zest for life! Weeds can flourish in hostile environments and outcompete other plants by growing rapidly, producing lots of flowers and lots of seeds. Of course, this often means that they grow where we don't necessarily want them. Maybe we should adjust

our perceptions of what a weed is and perhaps even welcome and enjoy a whole new plant-landscape at our feet?

In truth, weeds have value like our other native wildflowers; the lucky ones like foxglove, poppy and oxeye daisy that we happily share our spaces with. Many are very beautiful when taking a closer look, for instance the pretty in pink flowers of herb Robert amongst delicate foliage are hard not to like. Weeds are amongst the earliest and latest plants to produce flowers full of pollen and nectar for pollinating insects to feed upon and it is not uncommon to spot a dandelion or clover flowering throughout the coldest winter months when an insect might most need a boost. Weeds are also amazing producers of seeds. A single groundsel plant can produce over 30,000 seeds in a growing season and the seeds of some plants can remain viable in the soil for decades. These seeds are important

sources of food during autumn and winter for birds like house sparrow. Weeds also provide tiny homes for smaller creatures amongst the tangle of leaves, stems and roots.

Looking ahead to the challenges our planet is facing with the effects of climate change, we could also turn to weeds as our garden plants of the future. As many gardeners can attest, these tough plants can survive and flourish in harsh conditions where other plants cannot. During last summer's heatwave, many of us watched traditional plants like delphiniums and roses wilt amidst the water shortage, but who noticed the drought-tolerant ribwort plantain, scarlet pimpernel and yarrow flourishing un-aided in the yellowing road verges and lawns?

On that note, let's take a closer look at a handful of these much maligned but marvellous 'weeds' and maybe we'll start to love them a little more . . .



Annual weeds

Annual weeds are those that complete their lifecycle quickly and leave behind seeds to start a future generation. I've found that temporarily leaving the smallest of areas where these weeds can grow can produce surprising results.

Last summer I neglected to weed out willowherb growing between paving bricks on my doorstep and thought 'I'll get to that another time'. When I did return with the trowel, there was a large caterpillar munching on the leaves; it turned out to be an elephant hawk-moth. I left the willowherb alone and the caterpillar was there to greet me on the doorstep for the next five days. It was late in the summer, so I like to think it then used my wildflower lawn to find a safe place to complete its metamorphosis into one of the UK's most striking moths.

I love that the most short-lived and unfussy of plants can play their part in the ecosystem, costing us nothing more than patience whilst they grow and set seed. It is never long before they start to die back and the place can be tidied up ready for the spectacle to start again.



willowherb

Ruderal weeds

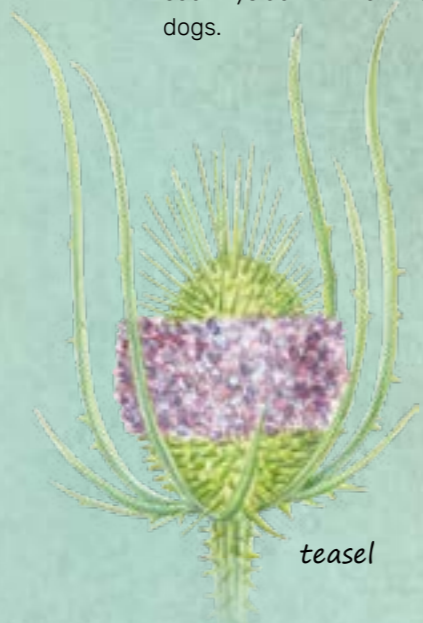
Ruderal weeds are amongst the first to colonise bare ground and individual plants can stick around for a few years before scrub establishes and takes over.

One of my favourite walks passes by a road embankment where these sorts of species have taken hold, enjoying their time in the sun. Spear thistle, ragwort and teasel all provide an abundant source of pollen and nectar for insects during the summer months and I often spot bumblebees and butterflies on a morning walk during summer. As seasons change, these bright cheery flowers turn to thousands of tiny seeds and in come charms of goldfinches and long-tailed tits travelling between stately teasel heads. Unseen to us, the sturdy hollow stems of weeds such as teasel and spear thistle are a perfect place for insects to spend the winter.

Look out for similar plants on railway track edges and brownfield sites and perhaps you'll even make space for them by leaving a corner of a garden or park untended, waiting to see what arrives of its own accord. The sunnier and better drained the spot, the better. Damper places, however, will be loved by other weeds like nettle, which brings along its own crowd of dependent wildlife like peacock and small tortoiseshell butterflies.



Jasmine Walters, WWT Wildlife & Farming Officer. Enjoys exploring the countryside with her two dogs.



teasel

No Mow May grass patch

Consider your average lawn and you might imagine a grassy monoculture.

We don't tend to think of these heavily managed habitats holding much diversity but you'd be surprised at what might have its day in the sun if the mowing regime is relaxed.

I don't have a garden so when I visit my parents, I like to take full advantage of theirs. Mum is patient and humours me when I 'encourage' her to appreciate plants that add interest to her lawn. There are spongy mosses, which were surely responsible for her lawn retaining water and life in last year's heatwaves. The subtle, tassel-like brown flowerheads of field woodrush also feature, as does the inconspicuous but beautiful blue flowers of speedwell. To my surprise last year, pignut – a small



field woodrush

umbellifer usually associated with ancient woodlands – appeared in several patches. She allowed it to flower before mowing and I was able to enjoy the pretty delicate white flower heads, as did the local insects.

There is also rough hawkbit, one of many composite yellow flowers that people think is a dandelion but is actually a different species. Very similar in many ways, though, it is tolerant of mowing, being able to lay its leaves flat against the ground and existing vegetatively without always needing to flower. I didn't really expect mum to leave longer between cuts and to allow the flowerheads to open so imagine my next visit in late September when I saw big patches of unmown lawn filled with sunny flowering heads; it made my heart sing. Almost every flower had a grateful insect at a time when most other flowers had gone over.



rough hawkbit

Scrub patch

Scrub is a successional habitat that usually forms when management relaxes, allowing shrubs, tree saplings and bramble to colonise. It has to work harder than most habitats to be appreciated; not only have we given it a negative name but many people see it as untidy or uncared for when it really is a valuable habitat.

Conservation management encourages more of this transitional habitat, allowing a gradual 'ecotone' between grassland and woodland habitats, for example, to develop. Trees and shrubs in the early stages of growth offer a habitat that older trees of the same species cannot. Young birch is the foodplant of the rare argent and sable moth caterpillar and brown hairstreak butterflies only lay eggs on young blackthorn. Scrambling and climbing plants like black bryony and honeysuckle take advantage of its structure whilst taller plants like

cow parsley and wild angelica seek its protection to grow alongside. One of my stand out Worcestershire wildlife experiences was scrub-based; a nightingale emerged and sang before retreating to the protection of dense shrubs and bramble.

Bramble is fantastic in itself, providing year-round resources such as shelter, nesting habitat, nectar and fruit. Dense patches also offer protection for tree saplings, allowing them to make it through their early years without being eaten. Hedgehogs and reptiles hibernate under it; the biggest grass snake I've ever seen was slinking under a big bramble patch. Its flowers are an important source of nectar for butterflies as well as solitary bees and its berries nourish a variety of wildlife in the autumn, including dormice and badgers. Your local wildlife will thank you if you're able to leave a small patch of bramble or allow your hedge to billow out a little further.



Becca Bratt, WWT Natural Networks Officer. Is always uplifted and inspired by nature.



bramble

Taking action for nature

Words: **Nick Packham**

Photo: **Guy Edwardes, 2020VISION**

If we're to halt wildlife declines and help nature to recover, we need as many people as possible taking action for nature on their local patch. We're connecting with communities across the county, establishing and growing amazing relationships with local people and organisations. Together, we're achieving great things for wildlife.

We've been supporting Worcester Environmental Group (WEG) and Onside Advocacy to create the 'Wild about Worcester Way', a way-marked wild route to help residents explore green spaces, learn about nature and improve their physical and mental health. The route will also act as a wildlife corridor; we've provided habitat creation ideas, training in wildlife identification and wildlife talks.

Bewdley School and Birchen Coppice Academy have been active at Dropping Well Farm nature reserve, helping us to turn farmland into heathland with sandy soils and flowering heather, which will be great for lizards, bees, beetles and many other species.

Working with Platform Housing's community team, we've helped to bring wildlife closer to people by installing bird feeders and running sessions on garden bird identification. Residents are topping up the feeders, providing vital food for birds in urban areas of Worcester.

Plans are developing in Bromsgrove and Redditch as part of Nextdoor Nature to enhance areas for wildlife at Tardebigge church and Forge Mill Needle Museum. We're also meeting youth organisations to connect young people with nature on their patch.

We've advised the Worcester Cathedral grounds team and Eco Group to support pollinating insects by creating a wildflower patch and to support bats by identifying possible roost options within the older architecture.

Local community members at Dropping Well Farm have helped us plant hedgerows with blackthorn and hawthorn, which are great for early emerging bees and provide cover and nesting sites for birds.

Discover more: www.worcswildlifetrust.co.uk/team-wilder



As the days grow longer and warmer, I love to take my morning coffee out into the garden and quietly listen to the birdsong filling the air around me. For me, as I'm sure it is for you, this is truly the sound of spring, a sign that the natural world has woken up after a long dark winter. Having sipped my coffee and enjoyed the performance I feel ready for whatever the day has to throw at me.

Spring continues to unfurl. One day I glance out of the window and, yes, there it is, my first sighting of a fledgling! A scruffy little blackbird, following dad across the lawn, eagerly anticipating its next feed. Before many days have passed, I've had the joy of watching baby robins and house sparrows trailing after their parents – it's baby boom time!

Working 9 to 5 (and beyond)

If you stop to consider what adult birds need to do to raise the next generation, it's pretty incredible. They must first survive the hardships of winter then quickly build into peak condition and dress to impress in their finest breeding plumage.

Then there are those melodic concerts that so lift our spirits. For those of us who have dragged ourselves bleary-eyed from our beds in the early hours to catch the richness of a dawn chorus, it is an unforgettably moving experience. For the birds, however, it is the serious business of defending a territory and attracting a mate.

Singing is hard work! The male must convince the female that he is the strongest and the best and will help her produce the healthiest offspring. If he fails, and doesn't survive until the following spring, he may have lost his only chance of passing on his genes. Courtship displays also play their part in establishing a pair-bond. Have you been lucky enough to witness the elegant duet dance of great crested grebes, culminating in the 'weed ceremony'? It's charming to watch.

Robin's nest

Then the hard work really begins! Birds use a variety of ways to raise their young. Most birds build nests, from the complex and intricate to the

downright tatty, each species having its own unique design. My favourite is the long-tailed tit's nest, a labour of love shared by both birds. It's the most beautiful dome-shaped construction, a delicate weaving together of moss and lichen, held together with sticky threads of spider silk. By contrast, the male wren is the solo architect of several nests that are then inspected by his demanding partner. Only the best one will be good enough for her. We also have hole nesters, such as starlings and woodpeckers, and ground-nesters like lapwings, curlews and skylarks. Coots and grebes build floating nests, herons generally build aerial nests. Some seabirds simply deposit a single egg in a depression on a cliff face; being pear-shaped, it won't roll off. Of course, some birds are famous for nesting in odd locations – I had a robin nesting in an old teapot in my garden, for example.

Due date

Once the family home is established and the pair have mated, the female is ready to begin the energy-intensive process of laying her eggs and incubating them. Many songbirds produce large clutches of two to three broods per year in the hope that some will survive. Other species, such as raptors and seabirds, produce fewer eggs but spend more time on parental care.

Length of incubation varies; for most small songbirds it's around two weeks whereas seabirds have the longest incubation periods from four up to eight weeks. Incubation is a full-time job as the eggs need to be protected from predators and spells of cold or wet weather. It is generally the female that incubates the eggs with the male bringing food but in some species, such as most seabirds, both sexes share

incubation duties. There are two rare breeding waders, the dotterel and red-necked phalarope, where the male sits on the eggs and raises the family alone; once the female has laid her eggs she leaves him to it.

Bringing up baby

Once the eggs have hatched the parents have their work cut out collecting enough food to satisfy the seemingly insatiable demands of their ever-growing brood, whilst continuing to keep them safe and warm.

Birds have evolved two distinct development strategies. Songbirds, pigeons and raptors are known as 'altricial' species. They produce blind and naked hatchlings that remain in the nest until fully feathered and ready to fledge, with encouragement from their parents. Once enticed out

into the big wide world they can be spotted by their drab colouration, stubby wings and tail. Look for their begging behaviour as they flutter those little wings and show their colourful gapes (at the base of the bill) to encourage their parents to feed them. Most fledglings need a day or two to develop their flight feathers before they can make their first precarious attempt at a wobbly flight.

Wildfowl, waders, game birds and other ground-nesters are 'precocial' species. Their chicks hatch with eyes open and already covered in down; they are ready to leave the nest almost straight away although they can't thermoregulate (control their temperature) or fly for at least a couple of weeks so remain vulnerable and continue to be brooded by their parents. Interestingly, these youngsters can only technically be

called fledglings once they have acquired their first feathers and are able to attempt flight.

Both strategies have their advantages. Altricial species tend to nest within dense foliage or in holes in trees, which keeps the chicks hidden from predators whilst their parents are out collecting food. On the other hand, it makes sense for the youngsters of ground-nesting precocial species to be able to run and swim almost immediately, and thus able to avoid predators by dispersing quickly.

All these precious little fledglings are the result of the non-stop hard work and dedication shown by their parents. In many cases, as with the baby blackbird I watched following dad, the by now exhausted adults will continue to feed them for some time. It's no wonder that by the end of summer they look distinctly the worse for wear!

Sadly, despite their best attentions, this is the most perilous time of all for their fledglings and many will not survive. Those that do will carry on the incredible work of their parents to ensure that future generations continue to be part of our world and delight us with their presence.



Sandra Young,
WWT trustee who does everything she can to help wildlife on her doorstep.



Amy Lewis



Wendy Carter

What if I find a baby bird on the ground?

- If fully feathered – it has not been abandoned. Leave it where it is. The parents will be nearby.
- If naked or downy – you can return it to the nest but only if you know where it came from and it is healthy.
- If in a dangerous or exposed position – carefully move it somewhere safe close by, within hearing and reach of its parents. Handling it briefly will not cause its parents to abandon it.
- Be aware that grounded fledglings of some species will definitely need help – these include swifts, barn owls and birds of prey. If in doubt, consult an expert (calling your local wildlife hospital is the best first step).
- Removal from the wild is a very last resort and only if the fledgling is injured, orphaned or obviously abandoned. It will now be entirely reliant on humans for survival so will need to be passed to skilled rescuers, such as a wildlife hospital, as soon as possible.

The plants that shaped us

Simon Barnes



Perhaps the most exciting thing in life is ignorance.

That's because ignorance is an open door: walk through it and learn. And the more you learn the more doors you find, waiting for you to walk through. Until very recently I was shockingly – stupidly – ignorant about plants, considering them just the soft furnishings of the wild world.

But then I realised that, roughly speaking, everything that lives on earth is either a plant or depends on plants. What have plants ever done for us? Well, there's oxygen, water, food . . .

We humans are as dependent on plants as the cow in the field or the butterfly flying past her nose. Plants are the only living things that can use the energy of the sun to make food. Plants have shaped human history. So I made a list of the significant plants of human history: wheat, rose, potato, tobacco, cannabis, grass, oak . . . and soon I realised that there was no escape. I would have to write *The History of the World in 100 Plants*. So let's look at two UK plants that made the book.

Edward Stone, an eighteenth-century clergyman, was walking along the river while suffering from ague: probably a rotten, feverish cold. Perhaps his condition had rendered him slightly daft, for he nibbled on a piece of willow bark. He reckoned that, since both willows and fevers are associated with wet places, the one must have been put there to cure the other. And it worked: he got better and wrote a paper to the Royal Society in London.

It worked because willow bark contains salicin. In the nineteenth century

synthetic salicin was developed, and this was adjusted so that it caused fewer digestive problems. The medicine firm Bayer marketed it – and called it aspirin.

Our second plant is a familiar one. These days the beauty of wild places is obvious to us all but that wasn't always the case. In the eighteenth century, a well-tended garden was regarded as the ultimate form of living beauty: cultivated, civilised and tamed. Outside was just wilderness.

That changed at the beginning of the nineteenth century when, and not by coincidence, the Industrial Revolution and the Romantic Movement both began. People began to appreciate the glories of untouched, unspoiled nature. The great emblem of that change was the daffodil, as celebrated in the poem by William Wordsworth: 'Ten thousand saw I at a glance, Tossing their heads in sprightly dance.'

The modern understanding of nature as something wonderful and fragile dates back to that time. Wordsworth's daffodils made this understanding vivid for all time.

But there are things to learn about almost every species of plant: the poppies that grow on ground disturbed by ploughs or by bombs, orchids that excite human passions, grape and barley that get us drunk . . . and on and on and on because without plants we are nothing. We wouldn't even exist.



Wild daffodils are a beautiful spring sight. Discover some of our best nature reserves for spotting them: wildlifetrusts.org/wild-daffodils



© Robert Beckinsale

Simon Barnes is the author of many wild volumes including the bestselling *Bad Birdwatcher* trilogy, *Rewild Yourself*, *On The Marsh* and *The History of the World in 100 Animals*. He is a council member of World Land Trust, trustee of Conservation South Luangwa and patron of Save the Rhino. In 2014, he was awarded the Rothschild Medal for services to conservation. He lives in Norfolk, where he manages several acres for wildlife.

@simonbarneswild



© Dawn Cooper

THE HISTORY OF THE WORLD IN 100 PLANTS

Simon explores the stories of more of the plants that shaped us in his latest book, *The History of the World in 100 Plants*. As humans, we hold the planet in the palms of our hands but we couldn't live for a day without plants. Our past is all about plants, our present is all tied up with plants; without plants there is no future. From the mighty oak to algae, from cotton to coca, discover a hundred reasons why.

Seasonal pickings

You can't have failed to notice the unusual start to winter last year; just how mild it was far into November. As a result, there was a longer season for some wildlife than we'd normally expect, particularly invertebrates such as bees, dragonflies and butterflies. I saw an active painted lady feeding on bramble flowers on 28th October, which was very unusual because most would have begun to migrate south in September to avoid any cold weather.

There wasn't an absence of our usual winter visiting birds, though, and there were even some nice surprises. Numbers of winter thrushes – redwings and fieldfares – have been high, which is not always guaranteed. Walks through our nature reserves were always enhanced by their chuckling and thin whistling.

From late November Upton Warren hosted a few bearded tits, a species that's not normally present in the

county but one that is liable to periods of dispersal away from its normal range. I also had the absolute joy of seeing a goshawk fly over Trench Wood during the first cold snap in early December and then a red-breasted merganser at Bewdley towards Christmas.

If winter presents challenges for engagement with visitors (there's the cold, bad weather, mud and a relative lack of abundant wildlife to point out), spring presents a wealth of opportunities and, as I write, I can't wait for the woodlands to burst into life with blossom and the first wildflowers. Usually, I catch sight of yellow flowers first, the primrose and the celandine, and then in April, the pièce de résistance, the bluebell. This isn't without its worries, however, because I'm sure we are all aware that the bluebell is very delicate and takes a long time to recover from being trampled.

Being an avid birdwatcher, I am eagerly looking forward to the vibrant chorus of resident and migrant birds as they claim their stakes to breeding territories. The garden warbler is one of my favourites. Its fast-paced, prolonged warble is one I never get tired of pointing out, mainly because it is usually delivered from cover with the singer well out of sight. It's easily confused with the blackcap's song and its plain plumage leads to it easily being overlooked. You can learn more about identifying it in my short video

www.youtube.com/watch?v=L18IgQQKitg



Ion Riley, WWT Community Wildlife Warden. A lifelong birdwatcher with a recent interest in butterflies



Top tip

Not all birds nest high up in trees, many nest at or near ground level. Wherever you are walking, keeping your dog on a short lead and on the centre of any path will dramatically reduce the amount of time a bird is kept away from its eggs or young chicks.

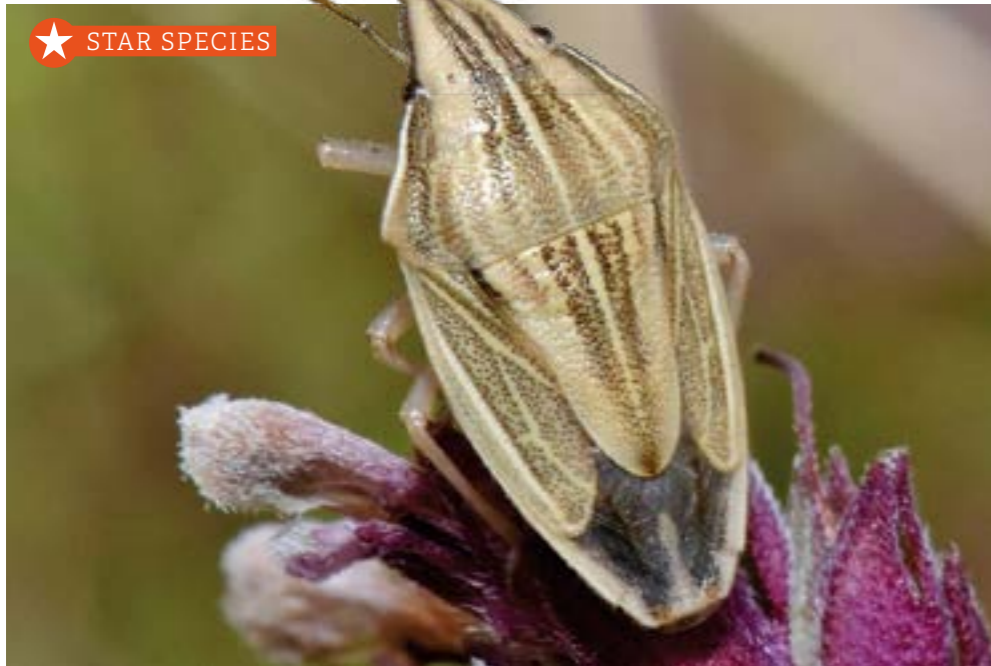
Chris Gomersall, 2020/VISION

Wild notebook



All photographs by Rosemary Winnall apart from bishop's mitre by Gary Farmer

★ STAR SPECIES



Bishop's mitre
Aelia acuminata

One early May I was delighted to spot my first bishop's mitre, which was balanced on the end of one of the flowers of upright brome *Bromus erectus*. That was 20 years ago and since then they have become increasingly common in the county, although their brown colour and body lines making them well camouflaged against the ripe grass seeds on which they feed. Adults overwinter in grass tussocks before mating in spring when eggs are laid on grasses, the nymphs moving between plants as the seeds ripen.

Hedgehog dropping

I am always glad to see these long black droppings on my garden lawn in spring, heralding the safe awakening of our local hedgehogs from their hibernation slumber. This prompts me to keep their water bowl topped up and order some dried hedgehog food to help them through the summer months.



Beech seedling

Beech fruits are heavy and not easily dispersed far from the parent tree. Seedlings in spring show broad twin cotyledons before the true leaves appear, although not many will survive. Only those in sufficient light will continue to develop if they are not eaten by voles, mice or deer.



Dimorphic bearfly *Chriorhina berberina var oxycanthae*

I look very carefully to check that this impressive hoverfly (one of two colour forms) is not a carder bumblebee. It is an impressive mimic! Orange antennae, huge eyes and lack of wing spots help to identify it. Adults fly between April and September and eggs are laid in deadwood.

Green shieldbug
Palomena prasina

This shieldbug had overwintered as an adult and in spring was found feasting on a bird dropping. It was good to see some garden recycling in progress! Its rostrum was being used as a four-jointed feeding tube, which is folded away under the body when not in use.



European minnow
Phoxinus phoxinus

I am always amazed at the colour change of the male minnow in the spring. I knew that some parts turn red but I wasn't aware of the white breeding tubercles that develop on the head. Numbers of these and degree of redness appear to be linked to breeding success.

Mandarin duck *Aix galariculata*

A colourful male in breeding plumage in the wild is an extraordinary sight. Introduced to the UK from China, they now breed along many of our waterways, feeding on insects, seeds and vegetation. Females are drab by comparison but well camouflaged on their nests in holes in trees.



Nettle clustercup rust
Puccinia urticata

As summer progresses some nettles develop this attractive orange/red rust on stems and underside of leaves, often causing swelling and twisting. The orange aecia cups seen here are impressive when examined with a hand lens. This plant pathogen also occurs on some sedges.



Rosemary Winnall, WWT member. Rosemary is interested in all aspects of wildlife, especially when linked to the Wyre Forest!


Wildlife gardening on a budget

It doesn't cost the earth to make a wildlife friendly garden. Indeed, the less money you spend the better for your pocket, wildlife and the planet.

Rather than buying plants grown in peat-based compost and plastic pots, grow them from seed in your own compost and an upcycled container. Take cuttings and dig up and divide plants to propagate more; if you have too many why not share them with friends and neighbours who might return the favour? It's a good idea to save seeds rather than buy fresh every spring but don't forget how good birds are at farming – if you've ever watched a goldfinch feeding on knapweed seed you'll know that half of it ends up on

the ground to grow into next year's larder. Look out for berrying seedlings, such as holly and hawthorn, at the base of fences or other spots where birds like to perch. With the landowner's permission, dig them up to grow for free in your garden.

It's not just gardening that can be done cheaply. Want a log pile? Keep an eye out for neighbours doing tree work and ask if you can have a log or two. Want a new bird box? Find instructions online to make your own. Other ways to help wildlife require no money at all: let grass grow long around the edges, avoid cutting back plants and start a nice open compost pile at the end of the garden. Nature costs nothing, we just have to let her in.

 Get more tips for helping nature at home from wildlifetrusts.org/gardening



Grow annuals from seed

Pollinator-friendly favourites like sunflowers and cosmos are easy – simply sow in pots of peat-free compost and plant out in early summer.



Make new plants from old

Dig up herbaceous plants like nepeta and crane's-bills and use an old bread knife to slice the rootball in two with intact stems. Replant and water well.



Make a log pile

Neighbours pruning or cutting down a tree? Ask for some logs! Piled up in a corner or beneath a bench they provide an easy, inexpensive habitat.



Grow your own bird food

Home-grown bird food is free: avoid cutting back seed-bearing plants like lavender, knapweed, grasses, sunflower and *Verbena bonariensis* and watch the birds flock to feed from them.

Illustrations by Hannah Bailey;
Kate Bradbury photograph © Sarah Cuttle



Take softwood cuttings

Cut 10 cm shoots from shrubs like lavender, remove lower leaves and push into pots of moist, gritty compost. Cover with a plastic bag sealed with an elastic band and keep on a bright windowsill for eight weeks.



Be less tidy

Let an area of grass grow long, allow leaves to pile up in borders, deadhead and cut back less.



Enjoy free gifts from birds

Birds make great farmers. Keep an eye out for holly and hawthorn seedlings, often found at the base of fences or other 'perches'. With the landowners permission, dig them up and plant in your garden!



Make your own habitat boxes (right)

From bird and bat boxes to hedgehog feeding stations and even 'toad abodes', there are plenty of instructions online on how to make your own bespoke wildlife homes.



Kate Bradbury is passionate about wildlife-friendly gardening and the author of *Wildlife Gardening for Everyone and Everything* in association with The Wildlife Trusts.

Can you step up?

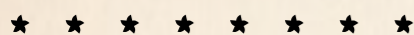
Without the support of our members and volunteers we simply wouldn't be able to achieve everything that we do for wildlife. Volunteers are our boots on the ground; the people who maintain our nature reserves, inspire people around the county to

love wildlife and even help to run the organisation itself.

Whoever you are, whatever your background, if you're looking to do something different this year, why not get involved and help us to help wildlife in Worcestershire.



Work party leader

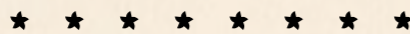


The dedicated volunteer groups that help to maintain our nature reserves require someone to organise and run them. Running work parties allows you to help shape the management of a nature reserve, directly benefit wildlife and see the site change for the better thanks to your efforts. Supported by staff, work party leaders:

- Help to create the annual work plan and run the volunteer group to deliver it.
- With training, arrange work parties, oversee practical days (usually once a month) and make sure they are undertaken safely.
- You will preferably already be familiar with volunteering and, while leadership experience is not essential, you will need to be comfortable working with others from a range of backgrounds.

Search 'work party' at:
www.worcswildlifetrust.co.uk/volunteering-opportunities

Local Group committee members



If you'd love to help others to share your love of wildlife, why not join your local group committee? By organising and carrying out a programme of activities in your area, local groups help to spread the word about how wildlife needs our help. Each group is different and reflects the needs in their area. Activities could include:

- Organising indoor talks.
- Planning and leading walks.
- Taking minutes at committee meetings.
- Taking on the role of chair or treasurer.
- Attending events to promote the Trust and stand up for nature.

Search 'local group' at:
www.worcswildlifetrust.co.uk/volunteering-opportunities

Trustees



Would you like to help shape the Trust's strategic direction and ensure it continues to be a well-run charity that delivers benefits for nature? Our trustees come from a variety of occupational backgrounds and use their diverse skills and experience to provide effective organisational oversight. Among other things, trustees:

- Attend Council meetings to discuss proposals and make decisions.
- Contribute to strategy development and monitor progress against current plans.
- Take part in sub-groups in which they have an interest or particular expertise.
Previous board-level experience is not required but you will need to be able to commit time and energy to the role.

Search 'trustee' at:
www.worcswildlifetrust.co.uk/volunteering-opportunities

With all roles, we offer relevant training and ongoing support!

Want to volunteer in a different role?

See what's on offer
www.worcswildlifetrust.co.uk/volunteering-opportunities

Your letters

We'd love to hear from you! Please send your letters to editor@worcestershireswildlifetrust.org



Andy Pitt

Upton Warren visit

My husband and I visited Upton Warren yesterday and were treated to a spectacle of a sparrowhawk causing lapwings and starlings to take to the air, after which it landed on a post right in front of the hide! It posed briefly for my husband to take a lovely shot of the bird with water as a backdrop.

We were also lucky to see two curlew fly in and my first sighting of a snipe – it was a great afternoon in the sun!

Pat Pitt



Dave Smith

Special visitor

Seen at Upton Warren
Tuesday 6th December.
Dave Smith

Ed. It was lovely to see bearded tits at Upton Warren for much of the winter!

Redwings in the garden

Had a flock of these in the garden today.

Brian Taylor



Brian Taylor

Social feeds



Mark Everett

I've watched kingfishers cough up pellets on many, many occasions but usually they are coughed into the water. Today, however, she coughed one onto the bank so I managed to get some photos of it. It was about 1 cm in diameter and about 2 cm in length.

@markjules2611



Carl Graef

Just to show you don't need to go far to see nature; from my garden through double glazing, just had to sacrifice my apple but well worth it #blackcap

@CarlGraef



Dave Grubb

On Worcester Cathedral today, Black Redstart (less than 100 breeding pairs in UK) & our Peregrine pair close together.

Dave Grubb

KEEP IN TOUCH

- ✉ Sign up to our e-newsletter: www.worcswildlifetrust.co.uk/e-newsletter
- 📘 www.facebook.com/worcestershireswildlifetrust
- 🐦 @WorcsWT
- 📺 www.flickr.com/groups/worcestershireswildlifetrust
- 📺 www.youtube.com/c/WorcsWildlifeTrustUK1

Leave a **legacy** for **wildlife**



Worcestershire
Wildlife Trust

Leaving a gift in your will to Worcestershire Wildlife Trust enables us to protect wildlife and wild places across Worcestershire.

Legacies left to the Trust by supporters has helped us to protect more land for nature, provide facilities for volunteers and undertake major restoration projects on our sites.

If you would like to find out more, please contact the Trust on mike@worcestershirowildlifetrust.org or **01905 754919**.