

NEW NATURE

BUTTERFLY BROTHERS

We talk to Jim and Joel Ashton, the Butterfly Brothers, about their passion for wildlife gardens and what we can do to help butterflies at home

-Page 26-



THE WOODLAND TRUST

Ruby Harrison from the Woodland Trust introduces us to the importance of the UK's ancient woodland

-Page 22-

PUFFINS

Jessica Hamilton talks to Dr. Katie St John Glew about her career and her research into the future of our favourite seabirds

-Page 32-

BSBI

Jessica Hamilton and Louise Marsh take us through the overview and highlights of the 2020 New Year Plant Hunt that recently took place across Britain and Ireland

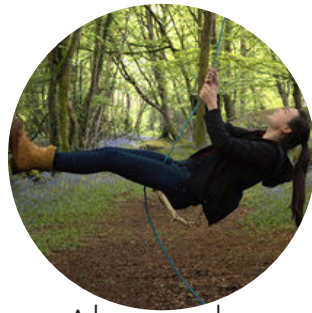
-Page 36-

Meet The Team



James Common
Managing Director

Twitter: @CommonByNature
www.commonbynature.com



Alexandra
Pearce-Broomhead
Director

Twitter: @lifeonthelizard
www.lifeonthelizard.com



Jessica Hamilton
Editor-In-Chief

Twitter: @Jessica_Ham92



Harriet Gardiner
Creative Director

Instagram: @harrietgardiner_art
www.harrietgardiner.com



Lucy Hodson
Communications Lead

Instagram: @lucy_lapwing



Paddy Fowler
Lead Editor

Twitter/Instagram: @paddymfowler
www.paddyfowler.com



Scott Thomson
Features Editor

Twitter: @Scott1993
wildchatblog.wordpress.com



Jeni Bell
Features Editor

Instagram: @seekingwildsights
www.seekingwildsights.co.uk



Sydney Henderson
Features Editor

Instagram: @bikini_syd



Hannah Rudd
Features Editor

Twitter/Instagram: @hannahrudd
www.hannahrudd.com



Emily Cooper
Features Editor

Twitter/Instagram: @ohdeeremily
www.oh-deer.co.uk



Isabella Miles
Communications Officer

Welcome to NEW NATURE

Hi guys, and welcome to another issue of New Nature!

After a short hiatus, we are back, (and better than ever!).

Over the course of our small break we have had a big of a shake up there have been quite a few changes. Firstly, I have taken over as the new Editor In Chief of New Nature. Prior to this you will have seen that I was a Features Editor, and had written a few pieces for New Nature prior to that. I am really looking forward to continue on with the great work that James, (director), and Alex, (previous Editor-in-Chief), have already started. I also particularly want to help champion areas of ecology/nature conservation that I am particularly passionate about- plants, insects and helping people connect with nature.

The second change we have made is that we are now changing to a quarterly publishing schedule that will parallel with the seasons. Why you may ask? New Nature is run entirely by volunteers who are all juggling the mechanics of New Nature alongside their own careers and lives, so the new schedule gives us more flexibility while still publishing consistently great content for our readers.

Thirdly, we have additional members that have recently joined the New Nature family. A big welcome Paddy (Lead Editor), Isabelle (Communications Officer), and Sydney and Jeni (Features Editors). You can read more about us all on page 6.

Now for the main topic at hand, what's in store for this issue?

Alex White gives us an overview of the happenings on his local patch (pg 8). Alex is a wildlife blogger, photographer and author of 'Get Your Boots On', which I was delighted to have had the chance to review, (page 54). We then hear from Harvey Webb who tells the story of how his persistence finally paid off when he finally snapped a photo of a local kingfisher, (page 9).

We hear from Izzie Bunting who tells us all about the BumbleBee Conservation Trust about their 'Big BeeWalk' competition that has been running for the last number of months, (pg 14). Ruby Harrison from the Native Woodland Trust then tells us all about the work they do, and introduces us to an exciting project they are currently working on, (pg 22).

Paul Greaves tells us about the 'Trees for Life Skills for Rewilding' programme, (pg 46), and we caught up with the Butterfly Brothers who tell us all about how their wildlife career started, (pg 26).

Myself and Louise Marsh then tell you all about the New Year Plant Hunt that is run annually by the Botanical Society of Britain and Ireland (BSBI) - what it's all about, and what the results from this year were. (pg 36)

All that, and much more! So grab a cuppa, sit back, and relax while you have a gander at our winter issue.

We always welcome feedback, as well as contributions and ideas from passionate young people, so if there is a topic or idea you are excited to talk about- get in touch!

JESSICA HAMILTON
Editor-in-Chief

Say Hello

EMAIL:

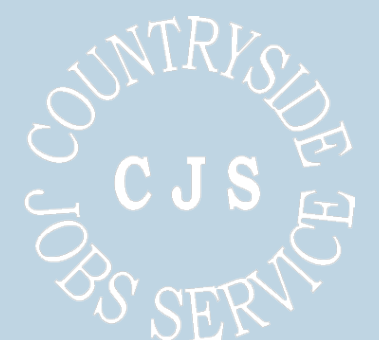
editorial.newnature@gmail.com

VISIT:

www.newnature.co.uk

Twitter Facebook Instagram @newnature_mag

Proudly supported by:



CONTENTS

ON THE COVER

Our wonderful cover shot this month was taken by Jack Richards. Jack is a 19 year old wildlife photographer from South Wales.



What's New?: 'Meet the Team' behind the running and creation of each issue of New Nature 6

Wildlife

Young Naturalists Columns: Alex White reflects on the new year and Harvey Webb introduces us to his local kingfishers 8

Toad Migration: Guy Wilcock takes us on a journey 10

Species Focus: Hannah Rudd on the Shortfin Mako Shark 12

Bumblebees: Izzy Bunting explains how a new research competition aims to help ease the plight of the bumblebee 14

Botany Focus: Andrew Millham explores the beauty behind the drooping saxifrage 18

Sussex Field Notes: Sophie May Lewis brings us notes from a wildlife garden 20

The Woodland Trust: Ruby Harrison from the Woodland Trust introduces us to the importance of the UK's ancient woodland 22

Anagach Woods: Rebecca Gibson explores this special place 24

Interview

We talk to Jim and Joel Ashton, the Butterfly Brothers, about their passion for wildlife gardens and what we can do to help butterflies at home 26

Conservation

Plymouth Sound: Harry Baker tells us of its marine life 30

Research Focus: Jessica Hamilton talks to Dr. Katie St John Glew about her career and her research into the future of our favourite seabirds 32

BSBI: Jessica Hamilton and Louise Marsh take us through the overview and highlights of the 2020 New Year Plant Hunt 36

Threatened Species: Matthew Appleby on the species at home that are threatened 40

Mull Wildlife: Lauren Fraser takes us on an adventure 42

Careers

Rewilding: Paul Greaves updates are skills 46

Rebecca Pitt: This young photographer talks us through her journey 50

Readers' Corner

Reader's Corner: Jessica Hamilton reviews Get Your Boots on by Alex White 54

What's on the blog: Check out what's new 55

Have Your Say: We hear your thoughts 56

Contributors: check out our brilliant contributors 57

Contact us: send us your submissions and follow us! 59

Images: 14, Izzy Bunting; 32, Dr Katie St John Glew; 9, Harvey Webb; 10, Guy Wilcock; 42, Lauren Fraser; 46, SPP Media; 18, Smudge 9000; 20, Sophie May Lewis; 50, Rebecca Pitt;

Meet The Team

What's New? <



James Common
Founder/ Director

I'm a naturalist, writer and blogger currently working as a Communications and Engagement Officer for the Natural History Society of Northumbria. My primary interests lie in birds, botany and youth engagement; the reason I established New Nature Magazine back in 2016. My blog can be found at: www.commonbynature.com



Alexandra Pearce-Broomhead
Director

I currently work as a Fundraising and Conservation Coordinator in Cornwall, as well a nature writer. I believe in using writing as a communication tool to try and motivate others on the subject of nature, attempting to spark an interest in and encourage more people to fall in love with the environment. www.lifeonthelizard.com



Scott Thompson
Features Editor

I studied Ecology and Conservation at the University of St Andrews before working for a wildlife conservation charity for several years. I now work for a charity that tries to embed sustainability in teaching and facilities for universities and colleges. I got into writing as I felt there was so many interesting things happening that people just didn't know about!



Sydney Henderson
Features Editor

My first love was the sea, although I've recently allowed myself to fall for birds as well. I studied both Art and Marine Biology, and am interested in all sorts of creative conservation communication. Nature has been incredibly important for my mental health, and this is a big part of what I want to champion.



Jessica Hamilton
Editor-in-Chief

My undergraduate degree was in Wildlife Biology which really jolted my passion to protect and raise awareness of the beauty of our natural world. I am currently working as ecologist in my home land of County Kerry and I feel blessed to be able to call this place home. I run the local BSBI group (BSBI Kerry). In my spare time you'll find me hiking and exploring with my dogs, I'm a also keen wildlife photographer, especially of insects, plants and landscape shots.



Paddy Fowler
Lead Editor

I am often found hiking, fishing and wild camping around the Scottish Highlands' rivers and lochs. I hold a Master's in Science Communication and have two years experience as Editor of the environmental SCIENTIST journal, I now work as Digital Communications Officer at the Scottish Environmental Protection Agency.



Jeni Bell
Features Editor

British wildlife has always been a huge passion of mine, but after travelling the UK in a campervan it became passion I wanted to share with others. By writing articles, stories, and sharing photos I hope to inspire others to connect with nature for themselves.



Hannah Rudd
Features Editor

Hannah Rudd is a marine biologist and conservationist with a special interest in shark science. She has recently graduated from the University of York with an MSc Marine Environmental Management degree, which led her to research whale sharks in the Maldives and great white sharks in South Africa. Hannah is also a passionate nature writer, photographer and public speaker, and currently works for an environmental non-governmental organisation in the UK.



Harriet Gardiner
Creative Director

I was lucky enough to study Marine and Natural History Photography which allowed me to combine my passions for nature and art. My love of the sea lead me to become an assistant diving instructor and travel all over the world. However working in conservation keeps me at home where I have been fortunate enough to work with Cool Earth, The Climate Coalition and now the WWF where I work in digital engagement.



Emily Cooper
Features Editor

I have been utterly obsessed with wildlife for as long as I can remember. I followed this passion into University, beginning with a degree in Biological Sciences at the University of Warwick. Hungry to learn more, I completed a Masters in Environmental Biology. I now work for an environmental charity which fights to protect rivers and the animals which call them home.



Lucy Hodson
Communications Lead

I studied Wildlife Conservation at Liverpool John Moores University, and have since worked for the RSPB in a number of roles. I'm currently a Communications Officer, telling the stories of the charity, our conservation work, our campaigns and the work we do to influence environmental and climate policy. I'm an all-round nature nerd and wildlife lover, and try to spend my free time outside in nature, observing wildlife and documenting it on my Insta-blog.



Isabella Miles
Communications Officer

After graduating from a Wildlife Ecology and Conservation Science degree, from UWE Bristol. I am now a Masters of research student, currently developing environmental DNA (eDNA) as an exciting non-invasive monitoring method for the African Penguin. An ornithologist at heart, my main passion is for british birds. Very excited to be the new facebook communication officer, and I hope to bring you lots of exciting social media content this year!

SEASONAL FINDS AND HIGHLIGHTS FROM ALEX WHITE'S LOCAL PATCH

Words and images by Alex White

With the chaos of Christmas out of the way, the house seems empty and quiet. It is the perfect time to find a comfy chair and look through some of those nature books that were perhaps Christmas presents, be inspired, and get outdoors.

For my family, New Year is a time for making plans; we sit around a table and chat about the things we want to do, or places we would like to visit during the coming year.

For 2020 this list includes: to witness bioluminescence (the natural phenomenon occasionally seen in the UK), to visit Scotland's wild spaces, and to spend more time kayaking and exploring the UK's waterways and coastal areas.

As well as planning adventures, there is always lots of things on our list, closer to home.

Looking out of the window on a crisp, cold morning or a wet miserable afternoon and dragging yourself away from the heating may not seem appealing, but once wrapped up and outside, there is plenty to discover in the first few months of the year.



During January, the bare branches suddenly become luminous yellow with hazel catkins. As the light drops, the sky at my local nature reserve is transformed with the spectacular patterns of starling murmurations, and late into the night mating foxes make their eerie calls.

As January slips into February, great crested grebes begin their beautiful courtship rituals out on lakes around the country, and on the land, red squirrels chase each other up and around trees as their mating season commences.

March and boxing hares herald the start of Spring. On arable farmland and large, flat areas of grasslands, either first thing in the morning or early evening, female hares can be seen standing up on their hind legs, boxing away over amorous males.

It is well worth getting up early on a Spring morning to listen to the dawn chorus. Birds singing to attract a mate or defend a territory before the daylight brings predators, noise and better opportunities for food.

For us, as a family, it is not so much of thinking of things to do, but trying to find time to fit everything in.



MY LOCAL KINGFISHERS

Words and image by
Harvey Webb

I have taken a wide range of photos of many kingfishers in a variety of different locations and settings, although getting a good shot of one of my local kingfishers has been a big challenge thus far. Even though I have probably spent the most time with these birds, I just haven't been able to get close enough in the right light! Along my local river I know of many spots where kingfishers are regularly seen and I visit these places often with my friends. The more time you put in, the more likely you'll get something out of it.

At one spot on my local river there was a pair that were almost always present. However, as the breeding season began they disappeared - I presume they had gone somewhere else that was more suitable to to raise a brood in. Recently, after months of seeing no kingfishers here, a female turned up on this stretch of river and a male was briefly seen as well. It is clear though that this is largely the female's territory, as she is the one seen the majority of the time.

I really wanted a good shot of this female as I have never yet managed to get a good shot of a female kingfisher, nor of a local kingfisher, so this would tick two boxes for me! After watching her closely for a couple of days, I noticed she particularly liked to fish in a part of the river, where the banks had partially

burst due to recent heavy rainfall. This area was on private land and after getting permission to go on it, I put up a post next to the reeds where she often perched. Having the post in that position gave me the best chance of getting a clear shot of her, instead of ending up with a photo of just green and brown reeds!

Within an hour of erecting the post, the kingfisher landed on it. She appeared tamer than the individuals present a few months ago, but I still approached with caution so as not to spook her.

While she searched around the water, I took my time advancing towards her and would pause for a couple of minutes, all the while crouched as low as possible in the long grass, as I wanted the bird to become comfortable in my presence.

As I watched, she dived for a fish, before proceeding to whack it against the post, and knocking off any parts of the fish that she would not be able to consume. Now that I knew it would be more accustomed to me, I advanced further till I was about ten to fifteen metres away. I raised my camera, and finally, I had my photos of the local kingfisher. Hopefully there are more photos to come as I will be spending a lot more time with these birds.

WHY DID THE TOAD CROSS THE ROAD?



Words and images by Guy Wilcock

At Charlcombe Toad Rescue, we are playing a small but vital part in combatting the decline of nature, not only in the UK but also worldwide.

Recently, the World Wildlife Fund (WWF) published a report, 'Climate, nature and our 1.5°C future' that spelt out how saving nature is vital to beating the current climate crisis.

The National Trust also released their 'State of Nature' report earlier this year, showing how the population of the UK's most important wildlife has tragically plummeted by an average of 60% since 1970.

It also claims that the decline shows no sign of letting up, despite

some successes in conservation efforts with the main causes of losses being the intensification of farming, destruction of habitats to make way for homebuilding and the climate crisis.

Furthermore, it has been shown that British children are becoming so disconnected from nature that they struggle to identify common wildlife and plants. A survey from the organisation Hoop earlier this year found that 83% of children aged 5 to 16 cannot identify a Bumblebee and 23% a Robin. What hope is there that they would be able to identify a frog, toad or newt?

Fortunately, there is no shortage of young people to help out with Charlcombe Toad Rescue. Which

is just as well, as every year in late January and early February, the amphibian population of Bath begins to stir and start their annual mass migration.

When the weather starts to turn damp, dark and mild, toads, frogs and newts that have been hibernating in the hills of north Bath start to make their perilous journey back to their ancestral breeding lake at the bottom of Charlcombe valley. As they make their way down the hill soon after dusk, from late January to April, they have to cross Charlcombe Lane, where high walls and hedges on the southern side of the lane impede their journey to the lake.

It is when the amphibians undertake this journey that they can get killed or injured by the busy rush-hour traffic. And it is because of the danger posed by the cars that Charlcombe Lane is closed to through traffic each Spring, and why Charlcombe Toad Rescue was founded: to give the amphibians a fighting chance of survival.

The group has been officially running for 20 years, although amphibian conservation in the area has been taking place informally since the 1960s, with frying pans playing the leading role in containment! The Group now has around 30 volunteers from across Bath and beyond, and the numbers are growing every year. We are trying to increase the number of young people involved, helping to educate them about nature, the importance of conservation and the role we can play. It has been great to see the growth of the group and the continued dedication of the volunteers every year.

It is the responsibility of Charlcombe Toad Rescue Group to patrol the local crossing every night during the migration, to reduce the number of amphibians killed by cars and to assist the creatures safely to their breeding site further down the valley. Last year alone a total of 2810 frogs, toads and newts were saved by the group, and we aspire to build on these numbers this season.

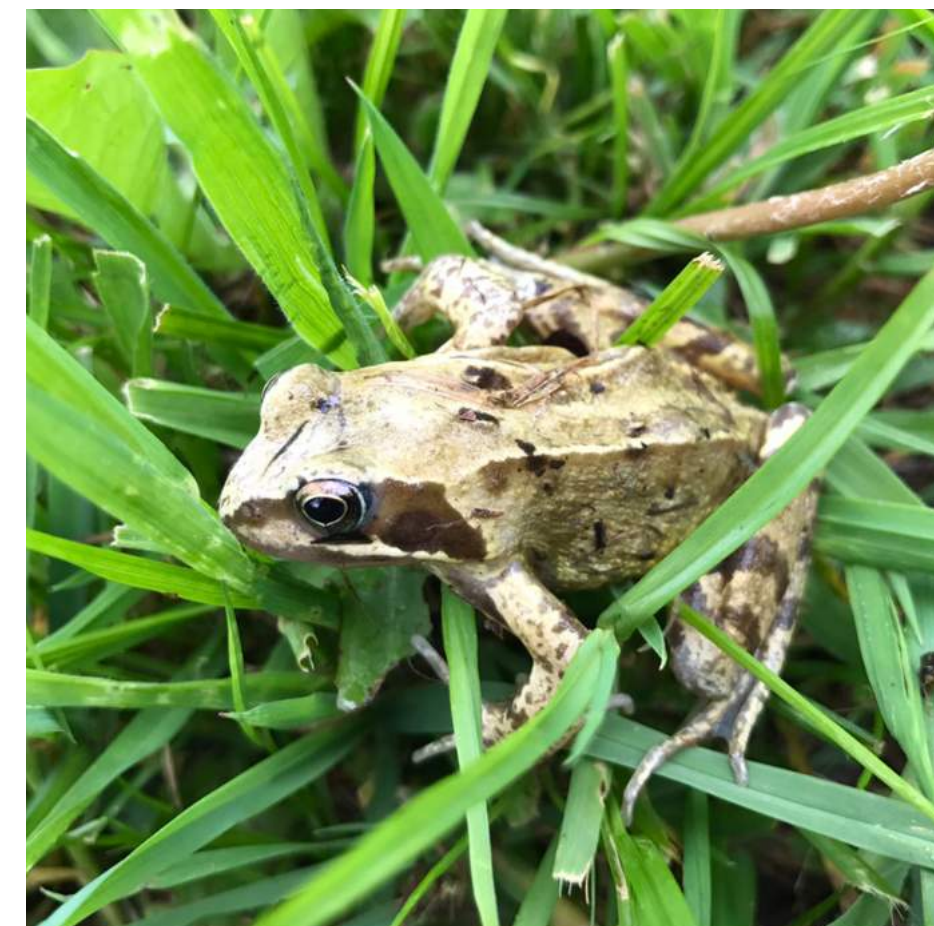
Patrols are always an interesting experience, a mix of anticipation and anxiety, with the hope of saving as many as we can, contrasted with the fear of being too late and finding their poor dead bodies. Nights, especially in the beginning and the end of the season, can be slow. However, during the peak periods of crossing, there have been records of over 600 amphibians crossing in one night, and it is quite the sight and an experience to behold!

2019 was the seventeenth year that Bath Council has closed the road to through traffic. Toad Rescue has no doubt that the mortality rate would be much higher if the closure did not take place and we did not go out on those long, wet nights— it's estimated that 20 tonnes of toads are killed on UK roads each year, with the total amphibian population having halved in the last 40 years.

Data for this study was collected by thousands of volunteers in the UK, working as part of Froglife's 'Toads on Roads' patrols, which Charlcombe Toad Rescue participates in. Toads are particularly vulnerable due to their slower movement and larger size, and over 800,000 are carried to safety by volunteers each year in the UK.

It is not clear what has caused numbers of toads to drop so dramatically, but likely causes are a combination of changes to farming practices, loss of ponds, an increase in urbanisation and more deaths on roads as traffic has increased. Climate change could also be a factor as research has shown that milder winters are detrimental for hibernating toads.

Another important facet of amphibian conservation involves the vital recording of data by volunteers in order to either show positive improvements, or alert conservationists to any significant decline in populations. Froglife collates the data from the various toad patrols across the country, including Charlcombe Toad Rescue, Henley and Selbrigg, to gain an overall view of the amphibian population in the UK.



This data is invaluable in helping to decide what action to take in our mission to protect and maintain the amphibians and their environment. The weather and seasons also play an important role in the rise and fall of amphibians year to year, as shown in 2018, where the migration was triggered early in spring following a very mild winter, while a week of snow in February halted the migration entirely.

At the moment we are gearing up and preparing for the coming season, and so as I'm dusting off my torch, bucket and hi-vis jacket, I'm hoping that my small role will go some way to inspire people to join the fight in stemming the tide of declining species.

Charlcombe Lane will be closed to through traffic from 17th February to 29th March 2020.

SHORTFIN MAKO

THE CHEETAHS OF THE OCEAN



Isurus oxyrinchus

Words by Hannah Rudd

There is a reason why the shortfin mako (*Isurus oxyrinchus*) is often nicknamed the ‘cheetah of the ocean’. Thanks to their enormous tail, their slim body and their distinctive skin covered in unique scales known as dermal denticles, shortfin mako sharks can glide through the ocean at eye-watering velocities. With an estimated top speed of 50 miles per hour, the shortfin mako is the fastest shark in the sea.

This stealthy shark can reach to almost 4 metres in length and can weigh over half a tonne, which makes the next fact all the more impressive – shortfin makos have been known to propel themselves over 5 metres out of the water. But that’s not all that’s extraordinary about these nimble hunters.

Shortfin makos are also able to thermoregulate. These apex predators are capable of warming critical areas of their body to give them enhanced sensory abilities and immense bursts of speed. With torpedo-like tunas and speedy swordfish being the top of their dinner menu, not only is the shortfin makos lightning speed important for catching prey, but they are also equipped with countershading to conceal themselves from their unsuspecting prey. They are truly a formidable predator within their oceanic realm.

Although rarely spotted in UK waters, the shortfin mako is known to inhabit our temperate seas and has a considerable range across the globe. But tragically, like so many shark species the shortfin mako is heavily threatened by the plight of unregulated industrial fishing. In

2018 the shortfin mako received an IUCN Red List Assessment of ‘endangered’ globally, but closer to home things are in a much more dire state with the Mediterranean population receiving a ‘critically endangered’ assessment as their populations continue to decrease at an alarming rate.

But what makes the shortfin mako so threatened? Unfortunately, these high-speed hunters are highly susceptible to overfishing pressures due to their life history characteristics. Almost all shark species have what scientists call a ‘low fecundity’, meaning that they produce very few offspring each time they reproduce. And the shortfin mako is no exception to this, typically producing 4–25 pups in each litter after a 15–18 month gestation period. Even less in its favour is that they usually only give birth every 3 years and females don’t become sexually mature until they’re 18 years old.

18 years. Juvenile shortfin makos must actively avoid falling victim to the increasingly volatile ocean environment dominated by commercial fishing vessels, ghost nets and other hazards before they’re capable of reproducing. It’s a dangerous ocean out there, and it’s becoming ever more dangerous for life in our seas year-on-year.

The shortfin mako is one of the world’s most economically valuable sharks, targeted for not only its meat and fins, but also for sport within recreational fisheries. At time of writing there are no catch limits on the shortfin mako and because of this the North Atlantic population is in steep decline and maybe to your surprise, the EU

ranks first in the world for mako landings with the Spanish fleet being the main culprits.

Scientists at ICCAT – the International Commission for the Conservation of Atlantic Tunas – have recommended that the annual North Atlantic shortfin mako catches need to be cut from current levels (~3000 metric tonnes) to ~300 tonnes to give the population a 60% chance of recovering within five decades. After early successes in 2019 with shortfin makos being added to the Appendix II listing of the Convention on the Illegal Trade of Endangered Species, it was hoped that at the annual ICCAT meeting later in the year they would be afforded even more of the protection they so urgently need. Regrettably, this was not the case, with the EU and the USA blocking proceedings because of their desire to continue fishing for this vulnerable species.

But we mustn’t lose hope. Populations of the shortfin mako, like so many other species, are in a fragile state across the world, but together we can push for the conservation success that is so desperately required to safeguard this species from the brink of extinction. Losing the cheetah of our seas should not be an option on our radars.

You can support the fight for better protections for shortfin mako sharks by getting involved with The Shark Trust UK’s #MakeOrBreak4Makos hashtag on social media and their No Limits? Campaign, which aims to end the overfishing of unmanaged shark species in the Atlantic.

Saving The Sound Of Summer

Izzy Bunting explains how a new research competition aims to help ease the plight of the bumblebee

Since the 1940s, we've lost almost two million acres of Britain's countryside to urbanisation and intensified agriculture. This includes the loss of at least 97% of flower-rich habitats, such as wildflower meadows.

Because of this, bumblebees need our help more than ever. Extreme habitat loss is the biggest threat to the survival of these remarkable insects, but climate change, disease and pesticides are increasing their vulnerability too.

We're already starting to see the impacts of these problems. The UK is home to 24 species of bumblebee, but only eight of these are common – and some of these appear to be declining in abundance.

Of the rarer species – now only found in specific places – some are responding well to conservation efforts, but there are serious concerns about others. Two species have even become extinct in the UK since 1940.

As well as having obvious consequences for biodiversity, the plight of the bumblebee is bad news for humans too. Bumblebees are responsible for pollinating a range of commercial

crops, including strawberries, apples, tomatoes and peas.

Without these insects, the cost of these fruits and vegetables and many others could skyrocket, as farmers and other food growers become forced to find less cost-effective means of pollination.

But all is not lost. There are lots of ways you can help bumblebees and other pollinators, from planting nectar-rich plants in your garden, to getting involved in spotting and recording bumblebees.

One way young people can help is by taking part in the Big BeeWalk Data Research Competition. This exciting new competition is run by the Bumblebee Conservation Trust, with support from the National Lottery Heritage Fund. The Bumblebee Conservation Trust is a leading conservation charity working to secure the future of the UK's bumblebees – including by working with communities and volunteers to protect and create habitats, as well as raising public awareness.

Through the Trust's competition – which is open for entries until 7 February 2020 – school and college students across the UK are



being challenged to generate new scientific discoveries that could be used to help protect our struggling bumblebees.

Those taking part will have access to almost 400,000 bumblebee records. These have been gathered over the past decade through the Trust's BeeWalk citizen science survey, in which volunteers identify and count bumblebees they see while walking the same route monthly from March to October.

This vast set of BeeWalk data includes information on numbers of different bumblebee species, as well as other factors such as weather, location, habitat type, and time of day. This provides a national picture of bumblebee statistics, and allows new research questions to be analysed.

This is where you come in. Students taking part in the competition could look at anything from how temperature affects bumblebee behaviour to how the availability of specific plants can increase bumblebee numbers.

Andy Benson, the Bumblebee Conservation Trust's Education Officer, says the charity is hoping

to get as many students and schools as possible involved with this groundbreaking research.

"By drawing on our unique BeeWalk data and using fresh thinking to design their own innovative research projects, students will be able to get involved in real-life science and develop skills desirable to universities," says Andy.

"They might even produce findings that could be used to boost practical conservation action to help bumblebees. We want students to think outside of the box and help shed new light on these remarkable insects."

Students aged 11-19 across the UK can get involved. By working on their own or as part of a team, they have the opportunity to analyse the data, create their own research project, and then submit their research as a fully-fledged academic paper.

The national curriculum-linked competition is also an opportunity for schools to apply some of the science they have already been teaching their students in a real-life context.

The competition features four prize categories – most innovative project, most rigorous methodology, best presentation and overall winner. Each school can make more than one entry, as long as each entry is by different students.

Each winner will receive a certificate and a copy of the Bumblebee Conservation Trust's book 'Bumblebees – An Introduction', and their research will be published on the Trust's website. The overall winner will have their work published in the 2019 BeeWalk annual report, and their school will win £250.

The UK-wide competition has been designed through the Bumblebee Conservation Trust's Pollinating the Peak project, which is taking action for bumblebees in the Peak District and Derbyshire.

"The more we understand, the more we can do to reverse the plight of the bumblebee before it's too late," says Andy.

Everything you need to take part in the Big BeeWalk Data Research Competition – including guidance on writing a research paper and all of the BeeWalk data – can be found at bumblebeeconservation.org.

Images: Volunteers on BeeWalk survey, Bumblebee Conservation Trust; Great Yellow bumblebee, Izzy Bunting; Bilberry bumblebee, Bumblebee Conservation Trust; Heath bumblebee, Peak District, Izzy Bunting;



Bumblebee focus: Great yellow bumblebee

The Great Yellow bumblebee (*Bombus distinguendus*) was found across the UK until the 1960s – but after suffering a massive decline is now only found in a few places in Scotland's remote northwest, in machair grasslands and other flower-rich areas on the north coast and some of the islands.

Because its last havens are so remote and relatively uninhabited, the species is difficult to monitor – leaving experts uncertain about exactly where it still survives.

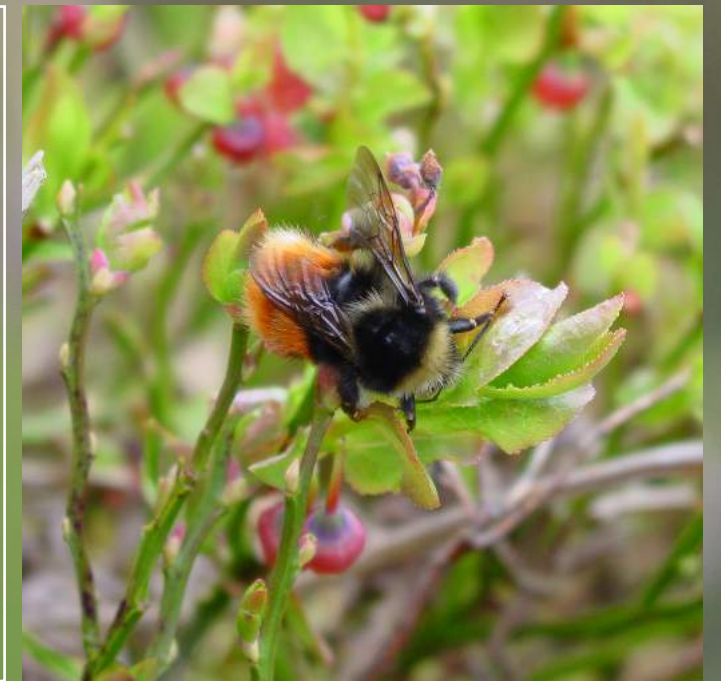
The species is a large bumblebee entirely covered with golden-yellow hairs – apart from a black band across the thorax between the wing bases.

Bumblebee focus: The Bilberry bumblebee

The star of the Bumblebee Conservation Trust's Pollinating the Peak project, the Bilberry bumblebee (*Bombus monticola*) was once found widely across north and west Britain – but a dramatic decline in recent years has left it languishing as one of our rarest bumblebees.

The Peak District is now one of its last strongholds – but even here, this cold-loving upland species is expected to decline further because of climate change.

Also known as the Blaeberry or Mountain bumblebee, the rare bee is found almost exclusively on bilberry-rich moorlands, where it has helped keep the bilberry plant alive for centuries through pollination.



The DROOPING SAXIFRAGE

Words by Andrew Millham

S*axifraga cernua*, better known as the ‘Drooping Saxifrage’, is an alpine plant commonly found across the Arctic. From the year-round Siberian permafrost, to the basaltic northern climes of Iceland – and every icy plain in between. This flower is my all-time favourite. Striking white petals against a snowy white backdrop. Red shoots clash marvellously with the monotonous black and white Arctic colours, a reminder of spring in the depths of winter.

Sitting in isolation at high altitudes on top of alpine cliffs, protected within rocky outcrops they watch over their stormy domain; witness to every storm and blizzard. They are magical.

They like moist and mossy places, on ledges or in snow beds. The drooping saxifrage is an exceedingly rare plant and in 1975, it became a UK protected

species under the Conservation of Wild Creatures and Wild Plants Act.

You wouldn’t think that the UK could support such a cold-loving specimen and they are unable to grow in England, Wales or Ireland, but there are a few very small populations of these alpine plants living in Scotland, existing at the very limit of their southern latitudinal range. Even there, you’re only likely to find them in a rocky crevice on top of mountain ranges such as Ben Nevis, Ben Lawers, and other tall mountains around Glen Coe. Only at these altitudes can the Drooping Saxifrage exist this far south – a white and red gem, amongst ptarmigans and darting mountain hares.

In an attempt to capture the magic of the drooping saxifrage, I wrote a poem including my personal description of the flower – I hope you like it:

Saxifraga cernua

In Scotland’s garden, highland haze,

Stands an alpine plant; nodding kindly

In faerie glen, a winter’s child – of the high north.

In winter months, the sun is rare,

This arctic flower; reflects light brightly

White petals, a floral crystal – making tepid rays sparkle.

Drooping now, to mark your leave,

A welcome visitor must always part.

On mountains rooted; solitary

But sentinel – the summit’s heart.



Writing this poem was very enjoyable as it’s always fun to write about what you love, in my case, nature. This flower, for me, truly is the heart of the mountains, cosied up within a mountainous crevice, shielded from the elements.

Unfortunately, the UK’s population of drooping saxifrage isn’t safe. With warmer summers becoming more frequent and average temperatures rising annually, these already vulnerable plants are finding it increasingly difficult to survive. There’s little doubt that anthropogenic climate change is somewhat responsible. The future of the drooping saxifrage in Great Britain is hanging in the balance – but if we all change our daily lives to reduce our carbon footprint even slightly, they might still be

saved for future generations to enjoy. That would be a triumph.

I encourage you to go outside and search for your favourite flower – you now know mine. Perhaps you’re awed by the yellow glow of springtime daffodils, or enchanted by the class and elegance of a rose.

A conscious appreciation of the floral landscape can transform the simplest of dog-walks or strolls home from school. No longer does one solely look down at the grey pavement and the tarmacked driveways. No – You can see the crocuses with deep hues of lilac, pink and blue; the silver white snowdrops, nodding in the sun; or, if you’re lucky, you may find your new favourite species”



Notes From a Wildlife Garden: BIRDS



SOPHIE MAY LEWIS

Based in rural West Sussex, Sophie finds inspiration for her writing and photography in the South Downs and the Weald. Introduced to wildlife and landscape history through family walks as a child, she has been hooked ever since.

 @sxfieldnotes
Website: sussexfieldnotes.wordpress.com

Almost the first thing I did in the garden, when we moved here just before last winter, was to hang a couple of bird feeders in the tree outside the bedroom window. I have been feeding birds throughout the winter, with frost-nipped fingers, for as long as I can remember: crusts from my breakfast toast, peanuts with their distinctive mealy scent, mixed seed that would spill through my fingers and sprout unexpected sunflowers below the table. Craning up on tiptoes to peer over the windowsill, holding my breath so it wouldn't steam up the glass, waiting for a flutter of feathers to return to the garden and accept my offerings. These are some of my earliest memories of wildlife, and among my most precious.

As a child, my back garden was my portal to the natural world, containing a kaleidoscope of unknown wonders to be discovered. Now, twenty-something years later, it is my garden that remains my principle, essential, connection to the wild.

The bird feeders have since moved across the small garden, from the tree by the back door, to their own dedicated 'feeding station' on the bank beyond the path. Brambles close by offer shelter, and a perch when the queue for the banquet is long. Like any top class restaurant, the customers are many and varied, and the locals always know the best time to visit!

The garden boundary merges with scrub and woodland that borders our village. This rural outlook brings its advantages when attracting wildlife such as birds into our garden. The garden of my early childhood was more urban; sandwiched between terraced houses, the narrow side alley, and 6-foot panel fences. Nonetheless, it was busy with creatures that entranced my 6-year old self. Starlings and house sparrows were by far the most common species, although our green spaces and population records tell a very different story now. Robins, dunnocks and blackbirds, song thrush and magpies all visited from time to time. Blue and great tits were frequent diners also, and it is these birds that dominate the feeders in my current garden.

Blue tits are bold birds with a cheeky-chappie-attitude, and plumage the colour of early forsythia blooms, fresh shoots against a spring sky.

Great tits are larger and bossier, inquisitive too. They wear similar colours to the blue tits, but greener, and topped off with a black tie and bowler hat.

A movement between the blue and great tits; a dashing in-and-out... a small beige tit with a matte black cap comes to perch on a nearby branch and 'sneezes', as though it's been in the damp too long; a marsh tit.

The coal tit is the smallest of the family, stealing seeds in grab and fly-by raids. A punky stripe of white feathers down the back of its otherwise black head is distinctive and jaunty.

The tits give way to the finches. Heavier set, larger birds than the diminutive tits, they arrive in a swirl and a scattering, a gilded flash. These are goldfinches, identified by their bright red facemasks (absent in the juveniles) and the gold splash on their wings. Once ensconced on the feeders, they are reluctant to move for any bird, aiming opened beak and flashing feathers to state their fierce dominance, arguing amongst themselves as much as with their fellow diners.

Images: Sophie May Lewis

Between them all, they empty the seed feeder in a day and a half; the fat balls are demolished by the following teatime. "Spring-is-coming, spring-is-coming, spring-is-coming! It is! It is! It is! I've seen it you know, I've seen it you know. I've seen it you know." Song thrush headlines from the tallest branches of the ash, reporting each morning and dusk on what, from his lofty position, he can spy over the horizon.

"I think I have something important to say but..." the dunnock stutters and loses its nerve.

A torrent of song escapes the tiny wren, under great pressure. Like a little mouse-bird it creeps and picks its way through a forest of bramble stems and boulders, weed canopy and spider webs, or in other words, the back of the flower border. A big attitude on a small bird. After each explosion of notes, the wren's apparent rage and indignation seems to cool and repressurise with a series of clicks, ticks and wheezing rattles.

Despite the apparent bleakness of the garden, as any standing seedheads bow to winter's fist, and herbaceous plants in the borders are yet to stir, the workings of spring are gradually gaining momentum (albeit mostly under the surface). Somehow, the birds seem to know. Perhaps they've spotted the new buds on the snowdrops too.

It is at this time of year when feeding garden birds is most critical and helpful to their survival. Just at the time when these birds want to think about starting the process of attracting a mate and nest building, to get a head start on the breeding season, natural food resources are at an all-time low. Most of the hedgerow berries and seeds have long since been eaten, and the spring emergence of juicy green caterpillars and other insects in the woodland is some way off. Oil-rich sunflower hearts and fatty energy-packed suet balls are perfect emergency rations through these lean times.

I look forward to warmer days as much as the wildlife does; winter always seems the longest season, dragging its feet as usual. For now though, I'll make another cup of tea, linger by the window, and consider if "I was busy watching the birds on my garden feeders" is a worthy excuse for running late for the rest of the day? Probably not. Never mind.

The WOODLAND TRUST

Ruby Harrison from the Woodland Trust introduces us to the importance of the UK's ancient woodlands, and tells us all about an exciting restoration project that is currently underway and is being led by young people.

WHO IS THE WOODLAND TRUST?

The Woodland Trust is the UK's largest charity championing native woods and trees. It has over 500,000 supporters. The Trust has three key aims: i) plant native trees and woods with the aim of creating resilient landscapes for people and wildlife ii) protect ancient woodland which is rare, unique and irreplaceable iii) restoration of damaged ancient woodland, bringing precious pieces of our natural history back to life. Established in 1972, the Woodland Trust now has over 1,000 sites in its care covering approximately 22,500 hectares. Access to its woods is free.

Ancient woodlands in the UK - Steeped in history, ancient trees have been standing tall for hundreds of years, witnessing momentous historical events while providing invaluable homes for wildlife with incredible communities of plants, fungi, insects and other fauna. There is no set age for a tree to be considered ancient, as different species age at different rates. Birch trees, for example, are fast-growing and could be classed as ancient at 150 years old, while a yew tree might receive the same accolade at 800 years of age.

Ancient woods and trees, in particular, are some of our most valuable natural assets. They are irreplaceable and home to many vulnerable and threatened species. It is a rich and diverse habitat that now covers just 2.4% of the UK. Much of what we have left is being damaged and once it's gone, it can't be replaced. As

the tree ages, it continues to become more and more vital to wildlife. But through restoration, we can stop the damage, encourage these habitats to recover and reverse years of decline.

Not only are ancient woodlands fantastically diverse landscapes that are a haven for nature lovers and wildlife alike, but they are also home to lots of scarce species including the striking purple emperor butterfly, (*Apatura iris*), or the elusive lemon slug, (*Malacolimax tenellus*).

Sadly our ancient woodlands are at risk from a wide range of threats including non-native species (eg Rhododendron), Pests and diseases, and of course, human impact. Ancient woodland is priceless, if we don't restore and protect what we have left, we're at risk of losing it forever. Without restoration, many of these woods will degrade further or disappear altogether.

Planting the seeds to secure the future of Woodlands, 'Mead' - a working example of conservation and restoration being led by the youth of today.

In order to champion restoration and creation of UK woodlands, it is important to engage and educate people on the value of our woods, especially our younger generation who will be the future guardians of our planet.

Recently the Woodland Trust succeeded in purchasing 'Mead' a 162-acre site which was formerly a coal mining site in Derbyshire. The Woodland Trust is currently undertaking a huge restoration project for the site; which includes the creation of a woodland, to bring back nature. Over the next number of years, they plan to plant a whopping 250,000 trees at the Mead, which will become the UK's first Young People's Forest.

The significance of this? As a forest for young people, Mead is not just a place that they will be able to visit in the future, it is a place that they will help create, restore and experience the growth of. Out of the 250,000 trees that are planned to be planted, the majority will be planted by young people, and already the first 135

trees were planted ceremoniously back in May of 2019. The Mead has huge potential for both young people and nature. It's a well-known phenomenon that experiencing nature is beneficial for people of all ages and as young people get a chance to watch the site go from barren to a haven for nature, they will see first hand the value and need for conservation projects and that they too can make a huge difference.

The purchase of Mead came after the charity commissioned a survey to chart young people's appetite to get involved in such a venture. Commissioned by the Woodland Trust and conducted by insights agency DRG, they surveyed 600 young people aged from 10 to 20 years old. The survey showed that three-quarters of young people want to get involved in fighting climate change. Almost two-thirds are interested in protecting British birds and animals, 63% in planting trees, and three quarters in reducing pollution and plastic waste.

The survey also highlighted how important education is for young people when it comes to environmental issues, as the majority of their knowledge on this issue is primarily acquired from school for 10-17-year-olds. The outdoors is enjoyed by most young people, significantly more so among 10-13-year-olds. Time spent in the open is also frequent, with 70% spending time outdoors at least once a week.

Young people envisage a green space as somewhere full of natural life. They want to be able to have fun, relax, learn, and spend valuable time with friends and family in their green space. Upon learning a little more about Mead, 9 in 10 said they would want to visit the space and want the site to be a place full of flowers, plants, trees and wildlife and as a space for learning about the environment.

The Woodland Trust is the largest woodland conservation charity in the UK and their vision is a UK rich in native woods and trees, for people and wildlife.

Twitter: @WoodlandTrust
FB: Facebook.com/thewoodlandtrust/

ANAGACH WOODS

Words by Rebecca Gibson

Within ten minutes of entering Anagach Woods, I had my binoculars honed on a red squirrel. It was poised in the classic squirrel stance: knobbly fingers clutching a peanut, bushy tail curled across its back. A completely peanut-based diet causes a deficiency in red squirrels, so the rangers fill their feeders with a special mix to maintain a balanced diet. Whether the squirrels follow the regime is another matter entirely. Instead they prefer to pick out the peanuts with the steely determination of a child eating around their vegetables.

It's impossible to dislike red squirrels. They have the eye-watering cuteness of babies their entire lives, coupled with boundless energy. I watched two up in the tree, neither tolerating the other's presence. After a brief, silent stare-down, a ferocious squabble broke out. In the blink of an eye, two orange flashes flew up the tree, twirling around the trunk with scrabbling claws. The victor was soon perched proudly on the feeder shelf – enthusiastically stuffing head, front legs and one back leg inside to grasp the prize.

Anagach Woods – situated in the town on Grantown-on-Spey in the Cairngorms – was planted in 1766 using young pine trees dug up and transported from the old Caledonian pine forest of Abernethy. A few of these original trees are still standing today; wizened goliaths surrounded by countless waxy saplings. There is certainly no shortage of trees here. Anagach Woods stretch for almost a thousand acres and conceal all manner of wild creatures including crested tits and pine martens.

Each time a branch quivered or a chirrup sounded, I scoured the canopy for birds. Muddled amongst the obnoxiously loud trill of the wren was a series of repeating undulating phrases that I didn't recognise. After stalking the sound I eventually located a goldcrest nestled in the sloping branches overhead. One of Britain's smallest birds, the goldcrest has mostly drab plumage with a greenish tinge. However, the vibrant yellow lightning strike on the crown of their heads more than makes up for it. In males, the centre of this bright crest is orange, while juveniles lack it altogether. Their thin beak is perfect for plucking

insects from pine needles, so it was no surprise to see one foraging in the evergreens of Anagach Woods.

To avoid getting hopelessly lost, I began to loop back towards the forest's edge. When I heard a resonant "pee-ow!" call I gazed upwards, and sure enough a buzzard came swooping into view – gliding in a wide circle before landing on a prominent branch where I could admire it. Buzzards are often underestimated birds, especially in the Scottish Highlands when, for a split second, you think you might have spotted an eagle. Up in the air and bleached out by the sun, it can be hard to make out a buzzard's specific detail, but as the raptor sat perched in the pines, I could easily see its snowy white chest – as soft as an owl's – with speckled markings that gave it the air of a regal monarch's gown. The buzzard preened its feathers for a while before taking to the air and melting into the trees. It was a fitting way to summarise the forest habitat: a creature can be there one moment and vanish the next. Forests are irresistible to me, and Anagach Woods instantly became my new favourite.

The BUTTERFLY BROTHERS



We talk to Jim and Joel Ashton, the Butterfly Brothers, about their passion for wildlife gardens and what we can do to help butterflies at home.

Q: Tell us a bit about your journey to becoming the Butterfly Brothers. What brought you here?

A: It started when we were kids. We left the house early in the morning and weren't usually back until 6 in the evening; we were very fortunate to have a wood about a mile from where we lived. As soon as we'd learned to ride push bikes, we were allowed out roaming and finding all sorts – badger setts, looking for chiffchaffs and blackcaps in the bramble scrub. We were fortunate that our dad began digging a wildlife pond in the garden and so we'd spend the best part of every Saturday rooting around in it. My dad is a big fisherman, so we'd sneak into his shed and "borrow" his pot of maggots, tie one onto a bit of string and try to entice the newts out of the pond weed. I suppose that was really our first experience with nature. We'd also go out birdwatching with our dad, on the weekends. It was nice to have that growing up – those experiences with wildlife and being on the riverbank with our dad, especially the mesmerising blue flash of a kingfisher.

All of that contributed to an underlying love of wildlife, which dissipated a little bit for us as teens in school but then came back as soon as we were old enough to work. I started in the landscape sector and loved it – getting my hands dirty and working outside was brilliant. When I turned 18 I decided to go self-employed and

when Jim turned 18 he joined me and that was it. It was all domestic to begin with – turfing, paving, fencing, weeding – standard work that wasn't very inspirational. We soon thought there could be a market out there for gardening for wildlife. This came after Jim read Chris Baines' book 'How to Make a Wildlife Garden', first released in 1985. In the beginning we were trying to encourage people to allow us to just put a bird box up or plant a native shrub such as Alder Buckthorn for Brimstone butterflies etc. It was very much

"we were trying to encourage people to allow us to just put a bird box up or plant a native shrub such as Alder Buckthorn for Brimstone butterflies"

low key – initially it was quite difficult to encourage people to garden in a wildlife friendly manner back in 2006. But as time went on attitudes changed, interest in wildlife was becoming more mainstream, and of course the launch of Springwatch on TV only helped our cause. We started to see a change in trends and were being asked to work nationwide, resulting in designing and building gardens for wildlife 5 to 6 days of the week. This involved anything from a postage stamp through to half acre

gardens or more. We would go into what was an old horse paddock or similar and strip the top soil, make a wildflower meadow, create a wildlife pond, plant native trees and shrubs, basically creating mini-nature reserves for people. Even in very small gardens we were still putting in little wildlife ponds, adding plants for butterflies around paved areas and ultimately showing people that even a small garden of 10, 20 or 30 m² can still be an oasis for wildlife.

Q: How long have you been called the butterfly brothers?

A: Our official company name is Hazelwood Landscapes – the name Butterfly Brothers really came about over 3 years ago when we started filming the gardens and habitats we made and creating informative videos on how people could help benefit insects and other wildlife. We thought we needed a Youtube channel so what should we call it? The Butterfly Brothers was rather unique!

Q: What is your advice for young people who want to turn a passion for wildlife into a career?

A: Our message is two-fold. Firstly, don't lose faith – especially through teenage years in school. Unfortunately wildlife watching sometimes has negative stigma attached to it – although it is improving vastly. It's very satisfying that attitudes are changing, youth are more aware of things like the

terrible insect decline and are keen to change things – as demonstrated by the youth climate strikes – partly thanks to social media. I think that's a key thing – using social media to spread ideas and inspire and encourage each other.

Don't lose faith in what you believe in and know that there are many other people out there who are trying to raise awareness and ultimately "save" wildlife and of course, there are so many more jobs in conservation. When Jim and I were 18 there was very little in the way of career prospects in conservation as a whole, whereas now there's a whole different avenue of careers available, which is fantastic.

Secondly, do trial your ideas – in your parents' garden if you can – you could always wait until they've gone out for the day and then dig a wildlife pond and see what

happens! Once people connect with nature, whether they've seen their first toad under a slab or observed a peacock or red admiral butterfly on a buddleia in a back garden, most people become hooked. Keep connected with nature and that interest will probably stay for the rest of your life. It doesn't matter what people say to you, you will always have that desire to help wildlife and I think once you have that "fire" inside it never tends to go out.

Q: It sounds like you have a really cool job, with lots of fun aspects, so what do you find is the biggest challenge?

A: January, I think! But seriously, working outdoors in Winter – aside from the cold weather – you're more often than not up to your ankles in mud and that can be challenging physically. Though in summer of course it can be

difficult to cool down when you're undertaking physical work in very little shade.

Apart from the weather, the most challenging thing for me is trying to convey the message enough. There's so many things we want to put across to people and half the time we're too busy physically doing the work. That's why Twitter has been a godsend really, we can post material and positively change people's attitudes. We'll post a picture of a pond we've created and a month or so later someone else will say 'because of that tweet regarding the pond, we've installed one in our back garden too'. Things like that are fantastic, which 20 years ago you couldn't do. For us there's the frustration of not having enough hours in the day to show people what we're doing all the time to hopefully inspire other people.

Q: Many young people don't have ownership or control over any land, so what are your top tips for helping butterflies if you don't have a garden of your own?

A: If you have a balcony, or just room for a single pot, plant a Lavender or a Verbena bonariensis or a Nepeta, you'll certainly be surprised at what can result by doing this.

If you don't have any space there are so many community projects to get involved with, to rewild areas, or improve greenspaces for wildlife. You can check with local community groups, local Wildlife Trusts, local nature reserves etc as

they're often looking for volunteers. If you're not able to help practically, you can help to raise awareness and there are lots of projects that work on this. There are lots of community projects that we've been involved in – and that anyone can get involved in – where there's always a great sense of togetherness resulting in wellbeing, where a community works as a team to create little areas for wildlife and most towns are very open to these ideas.

Q: What is your best British wildlife experience?

A: There's one thing that really got me into butterflies. Jim was a few years ahead of me regarding an interest in butterflies specifically – but I remember the first time he showed me Green Hairstreaks. At the time I was under the impression that there were only 6 or 7 species of butterfly in the country. He said to me 'Did you know there's a green butterfly?' To me it sounded rather tropical. He soon took me to Barnock Hills and Holes, a local nature reserve to us just outside Stamford and I was absolutely mesmerised by these insects. The colour was just amazing – like little green jewels perched on the edge of hawthorns – and to see them in the wild in the UK, I was just transfixed. Once you start learning about the lifecycle – surviving as an egg, as a caterpillar, overwintering as a pupae, and then emerging as this fantastic little insect for a couple of weeks each year – you soon start to have a great admiration for them! I guess that's what really encouraged my interest in butterflies specifically, so I'd say it was quite a poignant moment in my career so far.

Q: What is your favourite species of butterfly, and why?

A: I think I'd have to pick the Orange Tip. A couple of years ago I set myself a challenge in filming the entire lifecycle of the Orange Tip butterfly in my own back garden, which has since been very close to my heart. The challenge was to film all four different life stages. So I planted some garlic mustard, which is their larval food plant, and to my amazement an Orange Tip turned up and was nectaring on the garlic mustard as

"The colour was just amazing – like little green jewels perched on the edge of hawthorns – and to see them in the wild in the UK, I was just transfixed."

soon as it had started flowering! Later I saw a female coming into the garden, and she started laying eggs and I was quite overjoyed – I'd only planted the garlic mustard in February and by April they were starting to arrive in the garden and already laying eggs, which was incredible. I had already counted up to 25 eggs on the garlic mustard so I was absolutely chuffed to bits! Then the caterpillars started emerging into the first instar, and grow through to the 4th and 5th instars, ready to pupate. That was the easy part – I then had to find the chrysalises, which is akin to finding a needle in a haystack in the wild. They've evolved over

millennia to hide themselves from predators, like mice and birds in the winter to be able to emerge the following spring when they'll ultimately emerge as butterflies – which is pretty hard when you can't move and your only defence is camouflage.

I did find a chrysalis, after a bit of searching and I kept an eye on it through the winter and come the spring time I was fortunate enough to film it emerge as an adult male Orange Tip. To see the full lifecycle was fantastic and it further confirmed just how simple it can be to attract wildlife into your garden if you're given the right information. You don't have to dig a large pond, plant large trees – just a small body of water in a suitable container or a single plant can help – it can be very straightforward.

So yes, I'd say that because of that experience with the Orange Tips they are now the harbinger's of Spring for me – bar the Brimstone of course! – when emerging from hibernation in the hedgerows in March. Orange Tips are one of the first butterflies out, usually seen fluttering down a country lane as a little flash of white and orange.

Thanks very much for talking to us!

Website:

www.hazelwoodlandscapes.com

Twitter:

[@Butterfly_bros](https://twitter.com/Butterfly_bros)

Youtube Channel:

[The Butterfly Bros](https://www.youtube.com/channel/UC...)





PLYMOUTH SOUND

set to become the UK's first

NATIONAL MARINE PARK

Words by Harry Baker

A decade after first being established as 'Britain's Ocean City', Plymouth is set to take the next step in protecting and celebrating its maritime heritage by becoming home to the UK's first National Marine Park. After over a year of planning and consultation a declaration of intent was finally signed by members of the council, stakeholders and government officials at an event on Plymouth Hoe on 13th September 2019. It marked a commitment by everyone involved to turn Plymouth Sound into an internationally recognised area that can be shared by the entire city.

Plymouth has always had a strong connection to the sea, responsible for historic voyages, such as the Mayflower in 1620 and HMS Beagle in 1831, that not

only shaped the city but also the rest of the world. Today Plymouth's famous waterfront provides a home to a wide range of groups, including Europe's largest naval base, shipbuilding yards, commercial docks, a large fishing fleet, tourist attractions and leisure activities, as well as world class marine research centres.

But as well as being important to all these different organisations, industries and people, Plymouth Sound is an area of outstanding natural beauty and home to over 1000 marine species, from starfish, crustaceans and jellyfish to octopus, dogfish, and dolphins. It is therefore important to make sure everyone that uses those waters, are able to share them in a way that does not impact that marine life.

Fortunately the sea around Plymouth and the marine species that call it home are already well protected by long-standing legislation. The aim for the National Marine Park is therefore not just about conserving the area, but promoting it to the rest of the world and sharing it in a sustainable way. By working together, it is the hope of everyone involved to enhance the environmental, economic and social value of Plymouth Sound, akin to other National Parks such as Exmoor and the Lake District.

Enhancing the environmental, economic and social value will include activities such; as encouraging local people to spend more time in the marine environment, benefitting health and wellbeing; educating tourists and young people on the value of the ocean and marine life; celebrating Plymouth's maritime heritage through new exhibitions and visitor attractions; hosting international events such as the America's Cup.

The Marine Park will help create jobs for local people through tourism and leisure, placing it at the heart of Plymouth's economic plan, and serve to showcase the world class marine science, engineering, and research groups based in the City. Indeed, many of these

groups, were heavily involved in getting the project off the ground. The National Marine Aquarium, Blue Reef Foundation and Marine Biological Association were all particularly involved. But the project would also not have been possible without the support of key figures such as local MP, Luke Pollard and council leader, Tudor Evans. Importantly, the people of Plymouth were also given a chance to voice their views during a public consultation phase, throughout which, project received widespread praise with many seeing it as something for the city to be proud of.

All these groups and people were present at the declaration signing in September. The event was also attended by high profile figures including Environment Secretary, Theresa Villiers, who gave her "seal" of approval, and Plymouth born Lewis Pugh, now the UN Patron of the Oceans. Speaking at the event, Mr. Pugh told those in attendance that "(Plymouth) is a special city. Sometimes you need to be outside the city to appreciate it. There is something deep in our DNA that we are pioneers. We don't follow, we lead."

The National Marine Park will likely benefit the city and the people in it, but it will be interesting to discover what can be achieved for marine wildlife. As the first of its kind, no one can be completely sure what the impacts will be. The hope is that by placing Plymouth Sound at the heart of the city's economic plan, there will be a financial incentive to protect marine species and raise awareness of the key issues that will affect them. Frustratingly this is often the best way to encourage wildlife conservation.

The aim is to begin implementing the National Marine Park at the start of 2020 and have fully developed the area within five years. Once it is fully established it is also hoped that it will inspire the creation of more marine parks across the UK. However, this relies on how well Plymouth can create a successful and environmentally friendly blueprint for others to follow, in an exciting added level of significance to this exciting development.

PUFFINS

*Jessica Hamilton talks to Dr. Katie St John
Glew about her career and her research into the
future of our favourite seabirds.*

Q: Hi Katie and well done on your recent publication. Firstly, would you like to tell us a little about yourself? (What you do and what your main research interests are)

A: Thank you! I am currently a postdoctoral research scientist based at the University of Southampton. My main areas of research are how we use naturally occurring chemical differences, (stable isotopes), in the environment to understand the movement and migration of different marine animals. My PhD work (what this publication was based on) was mainly on where seabirds go and what they eat in UK waters. Whereas now, I am using these same methods to look at fisheries traceability – so verifying the catch locations of commercial fish products.

Q: What inspired/prompted you to seek out your chosen career path?

A: From a young age, I have always been interested in nature and especially the sea. I was extremely lucky that my parents took me on some amazing holidays when I was younger, where I got to experience the marine environment in all its glory. We went on trips both abroad and within the UK- the Northumberland coastline, especially the Farne Islands, will always be one of my favourite places. I think I just became fascinated and decided that I wanted to learn more about the sea. Sciences were my favourite subjects in school and I think it was just a natural and obvious path for me to follow a career in marine biology.

Q: For our readers who may not be familiar with using stable isotopes,

Can you explain what they are in simple terms and their application in marine research?

A: A stable isotope is a different form of the same element which naturally occurs in our environment. So, all living things contain elements of carbon and nitrogen, and some of these elements are slightly heavier or lighter than others. The ratio of the number of lighter elements to the number of heavier elements is called the stable isotope ratio. This ratio varies in space, within the algae at the bottom of the food chain, throughout the marine environment. So, the algae growing off Scotland will have a different isotope ratio to algae growing on the south coast. These isotope differences found in different feeding areas, then pass up the food web to the fish and seabirds. This means we can use stable isotope ratios as natural tags; telling us where an individual was feeding and also how far up the food chain they were feeding, (an indication of their diet).

Q: Your recent publication looking at their winter foraging behaviours highlighted that razorbills and Puffins responded differently to the leaner food availability. Is there any reason for their different behaviours? (ie the razorbills moved to find food whereas the puffins settled for a poorer quality diet)

A: Unfortunately, we weren't able to look into why the different species responded in different ways and this would be really interesting to look into. It could be connected to the different energy requirements of the two species; how much energy it takes to fly to a different

area versus how much energy they can take in from poor quality food. Or it could be connected to how well each species is able to adapt to different environments, and then change their behaviour based on these environmental cues. We were only able to look at two different years, so we would need to compare behaviours over many more winters to see if this is something which occurs regularly, or if in different years puffin populations were also able to adapt.

Q: What would you say the main conclusions from your research are- has it highlighted the need for research in other areas?

A: Our research highlighted that different seabird species and populations are not all doing the same thing each winter, and that different populations respond differently to poor environmental conditions. This is really important if we want to protect these species, as we can't just protect the regions the populations go in "good condition" winters. We need to come up with dynamic solutions, where we can change the areas of the seas that are protected at different times, to suit the requirements of different species.

Q: What do you think is the single biggest threat to seabird populations at this present moment?

A: In my opinion the biggest threat to seabird populations is us. Human activities are harming seabirds across the globe. Plastic pollution is a huge problem, with seabirds feeding themselves and their chicks on plastic rubbish in the oceans. Climate change is most likely the biggest threat.

Warming seas are causing changes in fish population distributions and abundance, changing the diet source for seabird populations. Also, the increased frequency of extreme weather events is having a negative effect on seabird nesting in many areas.

Q: If you could carry out research on any marine species, what species would you choose, and why?

A: Narwhals! I have been fascinated by narwhals for many years. They are so mysterious and not much is known about them as they live in such remote areas and are difficult to spot. I would love to measure the isotope ratios in museum collection Narwhal tusks, as when the tusk grows it locks in the isotope ratio of the region it was feeding. Therefore, if you were to measure the isotope ratios along the length of a tusk, you could reconstruct the past movement patterns of that individual. I think this would be really interesting and exciting to discover some of their secrets!

Q: Lastly- have you any career advice for those who may wish to pursue a career path similar to yours (marine biology/ecology)?

A: I would say just get excited and passionate about the natural environment and find out what interests you and what you may like to learn more about. Don't let anyone put you off – there may not be a great deal of job security, and it may not make you a lot of money, but if you love what you do and feel you are making a difference each day to protecting and learning more about our planet – it's totally worth it!

Images: Dr. Katie St John Glew



New Year Plant Hunt 2020:

Overview and highlights from across Britain and Ireland

Words by Jessica Hamilton (Editor-In-Chief of New Nature and leader, BSBI Kerry) and Louise Marsh (BSBI Communications Officer)

For the last nine years, the Botanical Society of Britain and Ireland (BSBI) have run their annual New Year Plant Hunt which gets people out and about in the fresh air recording what plants they find in flower over a four day period in the New Year.

Originally the idea started as a fun project for botanists to get involved with during the otherwise quiet winter months, whereas now, it is also providing valuable data into how plants might be responding to changing weather patterns.

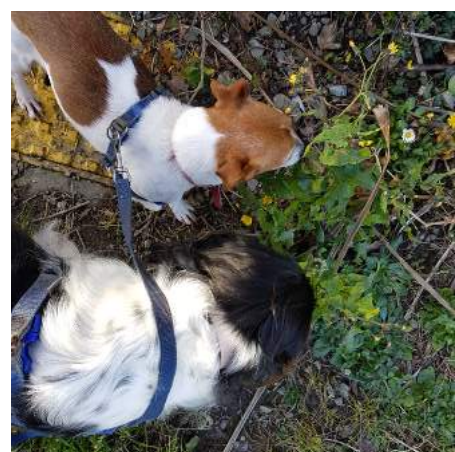
People of all ages were able to get involved and the method couldn't have been simpler- participants picked one, (or more), of the four days and spent up to three hours recording what plants they found in flower. Both native and non-native/naturalized plants were recorded, but plants that had been obviously planted, (eg in gardens),

were excluded. Care was also taken to ensure that plants were fully in flower.

Of the 798 lists of plant records submitted as part of the New Year Plant Hunt, 538 came from England. Plant hunters were out in force across the country, from Penzance in Cornwall to Berwick-on Tweed in the north-east and from Folkestone in south-east Kent up to the Lake District. There were hunts in cities such as Bristol, Nottingham, Newcastle, Leicester and Warwick, and several hunts in London. A glance through the lists on the Plant Hunt Results page shows that hunts took place in woodlands, in paddocks, in country parks, in cemeteries, in car parks and in lay-byes. One plant-hunter caught in a traffic jam did a mini-Hunt from his car and another hunter recorded what he could see from the train!

There were also several long lists made by groups of hunters out in Norfolk – having lots of pairs of eyes certainly maximised the chance of spotting more plants and lots of participants took to social media to talk about how much fun it was being out hunting with friends and family or as part of a recording group. Quite a few hunters took advantage of the chance to ‘stop the clock’ during their Hunt, so they could head to a café or a pub for some refreshment, a reminder that plant hunting isn’t just about collecting valuable data, it’s also about being outdoors having fun with friends!

Up in Northumberland, participants took a slightly different approach with a ‘hunt off’ between a group led by James Common, (Director and Founder of New Nature), and a group led



by former BSBI President Chris Metherell. Despite the somewhat competitive nature of their foray, both groups recorded a respectable 40 plants.

ISLAND HUNTS

32 species were recorded on the Isles of Scilly; six lists were submitted from the Channel Isles, all between 19 and 66 species; and a list from the Isle of Man also had 66 species. Coastal areas don’t suffer frosts the way inland areas do, so islands are definitely good places for plant hunters hoping for a long list!

SCOTLAND

Scottish plant-lovers were out hunting from Orkney, Shetland and the north-west tip of Scotland down to the coasts of Galloway, from streets, golf courses and parks in Glasgow and Edinburgh to the islands of Mull and Arran. The highest plants of the Hunt were recorded in Scotland: heather, cross-leaved heath and annual meadow-grass blooming up Birnam Hill on the southern edge of the Cairngorms, 400 metres above sea level.

In total, 102 lists were submitted from Scotland. Lists were generally much shorter than those from England but this was obviously down to colder weather rather than any lack of skill on the part of the plant hunters. A dozen or so were of ‘nil records’ – valiant recorders who had braved the elements, often in remote locations, but found absolutely nothing in flower in their local area. Members of the Help Team were keen to reassure

these hunters that their reports were also valuable and they were included in the overall analysis of results carried out by BSBI’s Head of Science.

WALES

42 lists were submitted by plant hunters in Wales and again, more plants were seen in bloom in coastal and urban areas rather than inland and in rural areas. The ‘urban heat-island effect’ is a factor here, with higher temperatures in towns and cities compared to the surrounding countryside. We also find more non-native plants in urban and suburban areas, where ornamental plants such as Training Bellflower, Green Alkanet, Three-cornered Leek and Winter Heliotrope have managed to escape from gardens and become naturalised.

Hunters in Cardiff undoubtedly benefited from having top botanist Tim Rich in the group. Tim and Dr Sarah Whild did the first ever Plant Hunt on New Year’s Day 2012 after they had noticed quite a few plants blooming on local road verges. They decided to count how many species they could find and they shared their observations with fellow botanists on Facebook. Little did they know that eight years on, more than 1,700 plant-lovers across Britain and Ireland would be following in their footsteps!

IRELAND

Between the whole of Ireland, 90 lists were submitted, 16 of these came from Northern Ireland and the remaining 74 came from the republic. The largest list came from top botanist Paul Green who

recorded 85 species in flower in County Wexford.

In county Down, the two longest lists (33 and 34 species) came from group outings led by County Recorder Graham Day.

Down in County Kerry, BSBI Kerry held two group hunts.

The first was the annual ramble around the Muckross Peninsula, Killarney National Park, where five participants braved the windy weather in search of flowering plants. All in all, a lovely day was had by all and 45 species were recorded including the obligatory Killarney speciality, Strawberry Tree.

On the second day, a larger group of 7 participants visited Ballyseedy Woods just outside Tralee and recorded 26 species in flower. A nice assemblage of species was recorded, the majority ticked off in the car park or roadside area surrounding the woods. The day ended with a box of biscuits presented to Tom Siekaniec who earlier in the day had guessed the number of species we recorded and he was the closest to the final number.

For the third of the BSBI Kerry hunts, Jessica Hamilton went solo around her local patch of Ballyheigue, accompanied by her two canines Lilly and Benny. These two pups are well versed in botanical recording at this point and they assisted in the finding and recording of 27 species around the village.

Down in County Cork, for the sixth year in a row, botanists headed to Glengarriff Woods Nature

Reserve and a group of 21 people recorded 51 plants in flower. Clare Heardman, Conservation Ranger at Glengarriff who lead the Hunt that day said “It’s such a great way to start the year, it provides the inspiration and motivation to get out and about and look closely at nature”

Further up the country, the BSBI Galway group joined forces with Friends of Merlin Woods, led by Ciaran Bruton and co. Not only did they have 14 determined plant hunters with them, they also had possibly the youngest ever attendee of a plant hunt- botanist Caroline Sullivan’s 9 week old son!! The group recorded 42 plants in flower in total and they visited a range of habitats within the allotted time frame, including hospital grounds and a local quarry. The highlight of their day? “spectacular amounts of the rare Maidenhair Fern, and a to-be-confirmed first Connacht record for the Giant Blackberry” Ciaran added.

SO WHAT HAVE WE FOUND OUT?

Well, we know that more than 1,700 people care enough about our wildflowers to go out hunting for them in the middle of winter! We also know that 615 species were spotted in bloom and that around half of these were native species.

The three most frequently spotted plants were Daisy (579 records), Groundsel (518 records) and Dandelion (486 records) – common species which some might consider “weeds”. Roughly half of all the species spotted in bloom



were typical ‘autumn stragglers’ such as Yarrow, Hogweed and Ragwort. Around a quarter of the species were spring flowers such as Primrose and Lesser Celandine blooming early and another quarter were either winter specialists such as Winter Heliotrope or ‘all-year-rounders’ such as Shepherd’s-purse.

Dr Kevin Walker, BSBI’s Head of Science, who analysed the Plant Hunt data said “We can’t yet prove that more species are flowering in mid-winter nowadays, rather than in the past, but the NYPH has shown that in milder winters, more plants flower because of warmer temperatures and fewer frosts. We don’t yet know what the implications of this are for plants and associated insects – but what we do know is that weather patterns are changing and that plants are responding”.

Images Left: Winter Heliotrope, Jessica Hamilton; Botany Dogs, Jessica Hamilton; Images Right: Common Groundsel, Jessica Hamilton; Leif Bersweden aka “The Orchid Hunter” with Sandy Knapp, Head of Plants at the Natural History Museum, London; Joanna Wright

GLOBALLY THREATENED SPECIES IN THE UK



Words by Matthew Appleby

As the logo of the World Wildlife Fund, the giant panda is the public face of endangered species. Its black and white features are as recognisable a symbol of conservation, as Mickey Mouse ears are a symbol of the movies. Since 2016, however, the giant panda has not been an endangered species at all. Successful conservation programmes have tripled the wild population. The International Union for the Conservation of Nature (IUCN) lists it as “vulnerable”, one notch below “endangered”, the same rank held by the African bush elephant, the Komodo dragon, the wandering albatross, and a worrying number of British species.

At the same time as the giant panda was “downlisted” – conservation slang for “classified as less threatened” – many of Britain’s best-known birds were “uplisted”. Species previously considered “least concern” were suddenly vulnerable to extinction. Since 2015, Britain’s coastline has been home to several species as threatened as polar bear. The puffin is one of them. Even on Puffin Island, a limestone rock off the coast of Anglesey, their population has plummeted from 2000 to 300 pairs. The more unusual-looking seabird is, the greater risk it seems to face. Long-tailed ducks, all pink beaks and trailing feathers, are also listed as vulnerable. With their spectacular summer hairdo, Slavonian grebe used to be common in the Arctic.

Their American population has crashed and the 30 pairs that breed in Scotland are now considered globally threatened. Common pochard will soon have to be renamed, being as vulnerable as snow leopard. At twenty-six, I can remember a time when black-legged kittiwake were a regular sight along the Welsh coast. Over three generations of birds, their global population has dropped by 40%, and they are now counted alongside the giant panda by the IUCN.

Perhaps none of this should be surprising. Research by the World Wildlife Fund shows that the number of individual wild animals has decreased by 60% since 1970. The total number of species considered “vulnerable” has more than doubled since 1998 – and more birds are set to follow. Take a walk around Britain’s coastline and see our latest threatened species. Knot, oystercatcher and curlew are now considered “near threatened”, the same as the Andean condor. A field of lapwing at the side of the motorway is a field of threatened species. Even the European rabbit, an introduced species in the United Kingdom, is “near threatened” in its native Iberia. Just how poor is the state of the planet when an animal that literally breeds like a rabbit is at risk of disappearing?

Many of our most unusual bird species are nationally rare but “least concern” worldwide. Birders

wait for hours to catch a glimpse of bittern, recently downlisted by UK conservation authorities, but this is a bird whose population is stable worldwide. Wild boar, white-tailed sea eagle, common crane – many of the UK’s rarest species are of no global conservation concern. While the reintroduction of these species is undoubtedly important, it has coincided with a shocking decline in more familiar animals. Young couples won’t be called “turtle doves” for much longer – nine out of every ten individuals have disappeared from the United Kingdom. Since 2017, they’ve been as vulnerable as panda.

The number of threatened species changes every year. Some, like the humpback whale, experience such dramatic increases in population that they are now of the same conservation concern as the house sparrow. Other species vanish altogether. Quoting a book first published in 1997, the IUCN website states that in no country other than the UK “is the cause of conservation so widespread and so passionate”. If that is still the case in 2020, then the public must be made aware of recent additions to the global red list. If not, Britain risks becoming a quieter place, with no curlew and no oystercatcher. The future of the giant panda is more secure each year, but that of newly threatened British animals is dependent on both conservation and public awareness.

WALK on the WILD SIDE

Sail for Scotland's Isle of Mull and experience wildlife in numbers you never imagined.

Words and images by Lauren Fraser

It may only take you an hour to drive from the east coast to the furthest point west on the Isle of Mull, but this Scottish island has a diversity in habitats that far outweighs its size.

Wildlife Holidays (www.mullwildlifeholidays.com), shares her insider tips for what species you could encounter and where to look.

EAGLE EYED

Dramatic cliffs and coastline, high mountainous peaks, including munro Ben More, deciduous and coniferous woodland, rugged moorland, upland and lowland, freshwater lochs, cascading waterfalls and babbling burns. The island is sparsely populated by people - year-round residents number around 3,000 - but its epic landscapes make it a wildlife hotspot.

Since their reintroduction to the Isle of Rum in the 1970s, to the north of Mull, the white-tailed sea eagle population has soared around Scotland's west coast. These are the largest eagles you'll find in the UK, with wingspans of up to 2.4m, and you've got great chances of encountering them on Mull - with 300 miles of coastline, even at locations you'd think were inland, an active white-tail territory is rarely far.

Lauren Fraser, from local wildlife tour business, Mull

While slightly smaller in size, with wingspans of up to 2.2m, golden eagles are equally as impressive to encounter in the wild. They can prove more elusive than the white tails, so good guiding will often help you experience the best sightings. Visit in the spring and summer months to see successful pairs raise a chick in their nest, when the eagles are at their most active with young to feed and fledge.

Alongside Mull's other birds of prey, which include short-eared owls, hen harriers and peregrine falcons, the white-tailed and golden eagles make the island a prime location for watching raptors.

SEAL SPOTTING

Seals are a common sight around Mull's coastline and it's not unusual for a seal or two to pay you a visit as you wander the beach or walk along the loch shore. You'll spot their heads popping up, followed by their long bodies.

They're larger than otters, which are also coastal residents, and will typically spend longer swimming with their heads above water. They're also fairly inquisitive, so if you keep quiet and maintain your distance, they'll often follow you as you work your way along the shoreline.

Seals are often spotted basking on the rocks in Salen Bay, just beyond the much-photographed ruined fishing boats. For bolder explorers, head for the cliffs of Carsaig, park at the pier and scan the bay for seals hauled up on the rocks.

DEER DISCOVERY

An autumn visit to Mull is one of the best times to visit for the deer, because by October the red deer rut is reaching full throttle.

Head out just before dusk and watch groups of stags lock antlers and clash, battling for dominance of the herd of hinds so it's their bloodline that courses through next year's offspring. Their bellowing barks and roars will stop you in your tracks - a sound that echoes through the hills and glens.

Fallow deer are also found on Mull, although they are more elusive and far fewer in numbers. Their white spots and smaller frames make them distinctly different to the larger red deer as they graze on the fringe of dappled deciduous woodland.

OTTER WATCHING

As you explore Mull's single-track roads, you're certain to spot a road sign or two with a purpose you probably won't have encountered before - caution, otters crossing! Mull's coastline, rivers and burns are home to Eurasian otters and they're often one of the species visitors are most excited to see.

Look out for areas of rocky coastline with plenty of seaweed, of which Mull has plenty, and settle down to wait for otters. You may also want to consult the tides - avoiding its highest point - and the wind direction, so the otters don't smell you before you see them!

POP-UP PUFFINS

You'll need to board another boat to meet the charming puffins that nest on Mull's outlying isles, including Staffa with its famous basalt columns and Fingal's Cave, as well as the Treshnish Isles.

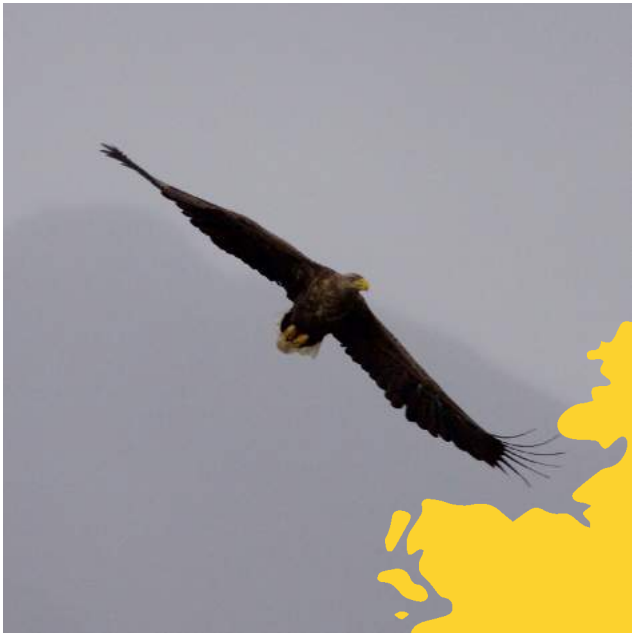
Both make an excellent day trip, with friendly and experienced local boat operators welcoming you aboard. Disembarking on Staffa comes with a steep climb up narrow steps, while landing on Lunga in the Treshnish Isles can entail a slippery scramble over the rocky shoreline, so walking boots will have you prepared.

The puffins arrive in late spring and stay until mid to late July most years, nesting in burrows in the cliffs among beautiful wildflowers like sea thrift. They aren't afraid of human visitors, who tend to keep aerial predators of their eggs away, as they fly in and out delivering sand eels.

FERRY FINDS

If the weather is on your side, spend as much time as possible out on deck as you make the ferry crossings to and from Mull, usually from Oban on the mainland's west coast, to Craignure in south east Mull.

This is a great time to look out for sea birds like gannets, as well as for marine creatures like porpoise and dolphins, both of which inhabit the waters around Mull and are often spotted in the Sound. Getting to Mull promises half the fun, and the wildlife watching only gets better from there...



Skills for REWILDING

Words by Paul Greaves

The Trees for Life Skills for Rewilding programme is an amazing opportunity for five people each year to spend 12 months learning the practical skills required to gain employment in the environmental sector. Thanks to the National Lottery Heritage Fund, Trees for Life were able to create the programme and fully fund the traineeships.

Deer management and estate maintenance across the 10,000-acre estate;

Community engagement, linking people with nature through educational and creative projects; Conservation and landscape planning, assisting with projects and monitoring linked to landscape scale restoration.

Skills for Rewilding provides an alternative route into employment in the Scottish environmental sector, one that doesn't require prior experience or academic qualifications. It's designed to be accessible to people that don't want to follow an academic route, recognising that there is a wealth of talented people out there that could be making valuable contributions to the sector.

One day a week trainees spend time compiling evidence of the skills they've developed during their activities. These portfolios of evidence contribute to getting vocational work-based qualifications that are transferable to future careers. Qualifications such as Scottish Vocational Qualifications in Horticulture and Environmental Conservation or Scottish Apprentice Ranger Certificates.

Trainees learn on the job by working alongside highly skilled staff, assisting them with their day-to-day tasks. The trainees choose to specialise in one of the following areas:

Trainees are able to gain experience with a range of Trees for Life projects including:

Growing native trees on the Trees for Life nursery which generates over 80,000 trees a year;

The red squirrel reintroduction project which has been creating new populations of red squirrels throughout the northwest Highlands – carefully capturing

reds from areas where there are healthy numbers and moving them to forests in the northwest that are free from the threat of greys and a devastating disease that they carry, Squirrel pox. Trainees have also helped train local people and students, giving them the skills to monitor how successfully the reintroduced squirrel populations are doing.

Assisting with surveys of the last remaining fragments of the ancient Caledonian pinewood, which used to cover much of Scotland. The surveys aim to assess the current ecological health of each fragment, whilst also assessing their resilience to future threats such as disease and climate change. The results of these surveys will enable landowners to make management decisions that would allow the Caledonian pinewood fragments to grow and thrive.

Going on expeditions to remote parts of the Highlands to collect tree seeds and cuttings for propagation into the next generation of the Caledonian forest. Over 1,000,000 seeds have been collected for Kew's Royal Botanic Gardens Millennium Seed Bank Project.

The recruitment process for the Skills for Rewilding traineeships involves an application form rather than a CV. The form is short and easy to fill out, making it accessible to as many people as possible (offering adjustments for those who might have difficulty filling in forms). We advise candidates

submitting an application to read all the information that is available on our website. Showing that you have researched the role you wish to apply for and understanding the purpose of the wider organisation is always recommended. Preparatory work pays off when you put together a good application.

When we receive applications they are assessed using a scoring matrix. This system scores each section of the application against desirable attributes such as level of interest in the traineeship, how the traineeship may help the applicant in their career and achievements in life that they are proud of. The application form is designed to tease relevant information from each candidate.

When filling in applications it is important to read them properly and to give a great deal of consideration as to what the employer is looking for. There will be clues in the recruitment information. If you are asked to give information about relevant skills or experiences, use detailed but concise real-life examples that promote a positive image of you. For instance, rather than saying you enjoy photography you might say that you take high quality wildlife images and give real-world examples of where your images have been used.

Shortlisted candidates are invited to a taster day at Dundreggan, our flagship Highland estate near Loch Ness. The taster day involves

a tour, a practical group activity on the tree nursery and a short one to one conversation with the programme manager. The taster day allows candidates to visualise what the traineeship entails and is really useful for assessing practical capabilities, level of interest and group dynamics. The informal chat allows quieter people, who often say nothing when around more vocal candidates, an opportunity to express themselves and ask questions. We always encourage people that come to ask lots of questions as it communicates a level of interest. Remember that the recruiters can't read your mind. They have to base their decisions on what you communicate in your application and what you do and say when they meet you.

Trees for Life trainees become part of the family, so we have mixed feelings when they graduate. Excitement to see what path their careers take and sadness that they are no longer part of the team. Three recent graduates were immediately successful when applying for positions with conservation charities and horticultural institutions, evidence of success for the programme. Parting words from the trainees included "amazing," "thanks for picking me," and "special memories," so we think they had a pretty good experience.

The Skills for Rewilding project is made possible through funding provided by the National Lottery Heritage Fund.



Images: Trainee Catriona surveying Caledonian pinewood, Deer management and estate maintenance trainee Heather splitting firewood, People and community engagement trainee Graham at Belladrum Festival, Paul Greaves; Tree nursery and horticulture trainees Eilidh and Louise on the nursery, SPP Media;



REBECCA PITT

A 15 year-olds journey to professional photography is only just beginning.

I started off at school with no interest in photography at all, until we did some in my class and went out to take a few photos. I was praised for being quite skilled with the camera and I quickly gained a thirst for going out and taking photos.

As soon as I got home I begged my nana to buy me a professional camera. I got a really good deal on a Canon 1100D with three lenses, three filters and a camera bag all for £200. Now, if that's not a good deal, I don't know *what* is?

Straightaway I took it into school where I took my first photo in the nature reserve. I wanted to capture the snow on the berries to show how wonderful nature can be in its simplest form. On returning home I went into the garden and spent a long time outside just taking photos of the flowers. There was nothing special about the photo I took, yet I fell in love with the image.

I downloaded my photos from my camera onto my phone and began to edit them in a way that I liked their appearance. I then made my Instagram account called `everything_photogra_phy`, which I uploaded my images to. To my surprise I quickly gained a following - as well as likes on my first two photos! People actually liked my photos and I couldn't wait to upload more.

I struggled to go out and take photos of the amazing wildlife. I travelled to local areas and even further distances whenever I could. Sometimes I just went out into nature but sometimes I even went to zoos, but only posting what I thought were my best shots. Although my photography was improving, I quickly discovered there was a deeper purpose for my photos.

From then on I decided I would use my posts on Instagram to tell people how important it was to protect wildlife, nature and the very planet that we live

OWL



on. For example, I have decided to change my garden to cater to biodiversity. I built two bird feeders out of wood from a sustainable forest, which now have been occupied by a colony of bees - I was extremely happy because it lets me know I was encouraging bees into my garden. Therefore, I decided to plant more flowers and two trees to encourage them to stay.

Another thing I did was join Environmental Studies at school. In it we did a lot to help our nature reserve and encourage biodiversity. We made recyclable bird feeders that we filled weekly. It was really fun to make them and to see the birds actually use them.

I mainly use my photos to talk about how wild animals should not be pets, how we are hunting

animals to extinction and how we are destroying the habitats of the very species that are very important to ecosystems. In one year I have grown to over 6,000 followers which, to some may not be a lot but to me I was shocked and surprised by how much people actually like my work. To have accomplished this made me extremely happy and is only pushing me to continue my path to becoming a professional photographer.

Now, let it be known that you don't need good equipment to accomplish your dreams, you just need to work hard and put your mind to it.

My journey has just begun but I think it's time you start yours, don't you?

FOX



FLAMINGO

ABOUT THE PHOTOGRAPHER

I'm a 15-year-old photographer who enjoys looking after the environment and wildlife. I also sell my photography and do pet photography.



@everything_photogra_phy

BOOK REVIEW

Get Your Boots on- Alex White

Words by Jessica Hamilton

Written by Alex, who is a 15 year old wildlife photographer and blogger, this book is a practical interactive guide aimed at helping teenagers and young people who want to get involved in wildlife watching and nature conservation. It's a concise guide that tells you what you can do and most importantly – how and where to do it, be it meeting with like-minded people or the best places to look for wildlife.

Alex states in his introduction he wanted his book to be “well-thumbed” and scribbled on- not left on a shelf to gather dust like so many other books we get for Christmas or birthdays. This is definitely my kind of book and I wish it was around when I was a teenager! Being a teenager is tough work, it can be scary to stand out and follow your passions- but it's so worth it. Alex himself notes that his interest in wildlife has given him “amazing friends and some brilliant opportunities”.

For me - when choosing a book, the more interactive and use I can get from it, the better. Alex's book is exactly that. It's practical, lightweight, easy to follow and jam packed full of tips and inspiration.

The book is strategically laid out and broken up into well thought-out sections so you can jump straight to a particular spot - for example the ‘Gadgets and technology’ section sets out how ever popular technology can play a role in nature watching, bringing wildlife up close from your doorstep - to the phone screen in your hand!

Interlaced throughout the book are snippets and quotes from well-seasoned ecologists and others who work in the field of nature conservation. Another feature running throughout the book which I really loved is monthly blog post snippets where reflections on what's going on in the natural world at that time are spoken of. (E.g. starling murmurations in February).

As Chris Packham, who wrote the foreword for this book noted, it “exudes’ passion”. On every page Alex's devotion and enthusiasm is felt, and subsequently seen through his fantastic photos that he has taken which are on display throughout.

One of my favourite quotes is when Alex laments for a moment on how the encounters he has had with nature are the ones he will remember the most,

“When I'm old and sitting in a chair in a care home I'm not going to remember that YouTube video or battle I won on my game console. What will bring a smile to my face is the memory of the first time I saw a badger cub or the feeling of exhilaration that seeing a whale, free, in the wild gave me” With the endless threats to our wildlife, it was refreshing to read such a well put together book by someone so young and passionate about our natural world.

So go on, *get your boots on!*

WHAT'S ON THE BLOG

A quick overview of what's been published on our blog in recent months. Don't forget that we are always searching for new contributors to submit content that will suit the theme of our blog.

If you have an idea for a blog piece- get in touch!

THE KNIGHTWOOD OAK - JENI BELL

The New Forest is home to a whole host of impressive trees, all steeped in a rich history – but it's the mighty Knightwood Oak, with its incredible size and stature that reigns supreme. Join Jeni Bell as she explores the majesty of this ancient forests, supposedly oldest, and most well-loved of trees.

SAVING LOCAL WILDLIFE WITH YOUR GARDEN- RUBY CLARKSON

UK's wildlife is under threat from a variety of stresses including habitat loss. The good news is that there are things you can in your own back garden to give local wildlife a helping hand.

Ruby gives us a great run down of simple, but effective tasks we can all do at home that will benefit our wildlife, (and us!).



HAVE YOUR SAY

The prospect of a New Year is always exciting - a chance to start fresh, to take up new hobbies, and learn from the experiences we had the previous year.

With all the hope and prospect that the New Year presents us with, we were curious as to what our readers hope for nature were in 2020.

Our communications Team took to social media to ask YOU, and this is how you responded.

Q: What's your one hope for nature, wildlife and the environment this year?

"That all children can access & experience our natural world. Green spaces & schools teaching them about the environment & wildlife. Contact with nature as huge benefits for their mental health & understanding. Hopes that we can all be better informed." *@SazMills*

"An end to the Badger Cull" *@JulieSingleton*

"That the change in language we saw in 2019 is turned into a change in action in 2020" *@jazzy+jeff44*

"Stop our birds of prey being persecuted" *@leanjeanp*

"That world leaders finally take action to save the planet" *@JaneBraybrook1*

"Someone in the right places actually listens and starts a process to do something about the climate emergency." *@guttridge_kevin*

"That the world, especially our governments, 'Wake up and smell the coffee'. That they act to cut emissions, plant trees, heal and protect habitats and ecospheres. That people stop using plastic and littering and start volunteering on environmental and social projects! Respect!" *@suezlamb*

"That people understand they are not the most important thing in the world." *@Kate_treharne*

"To have an Environment and Agriculture Bill for the UK that provides habitats for our precious species and can reverse the steep declines we've seen. As a land manager I know that if you create it, nature will come." *@Jamiegouldwildlife*

"New 2030 #CBD targets and further action and advocacy by young people putting nature and the environment first!" *@EmmaAckerly27*

OUR CONTRIBUTORS



Alex White

Alex White is a 16 year old wildlife photographer, author and blogger. He is passionate about British wildlife and showing others how easily accessible it is to see wildlife on your doorstep.



Andrew Millham

Andrew Millham is a 19 year old Environmental Science student.



Guy Willcock

Guy Willcock is a 17-year-old student currently studying for his A-Levels at King Edwards School in Bath. He is passionate about the environment and a sustainable future. He has been a volunteer with Charlcombe Toad Rescue since he was nine years old.

@GuyWillcock
@guy_willcock



Harry Baker

Harry is a marine biology graduate from the University of Exeter. He is now an upcoming scientific journalist and writes about the ocean in his popular new blog Marine Madness.

@harryjpbaker
Blog: marinemadness.blog
@marine_madness



Harvey Webb

Harvey is a 15 year old amateur wildlife photographer based in Hampshire, England.

@hwebbphotography
@hwebbwildlife



Izzy Bunting

Izzy Bunting is a writer, photographer and environmental activist. She's passionate about travel, wildlife and history. Her work has appeared in a wide range of newspapers, magazine and websites, and she has been shortlisted twice for the British Wildlife Photography Awards.

@izzbunting
@izzybee.photography

Check out our amazing young contributors and connect with them online!



Dr. Katie St John Glew

Katie is a research scientist at the University of Southampton studying the movement and migration behaviours of different marine animals using naturally occurring chemical tools (stable isotopes).

@katiestjohnglew



Lauren Fraser

Lauren Fraser and her wildlife guide husband Laurie Sear run Mull Wildlife Holidays, a local business delivering small group wildlife tours to see the island's eagles, otters, deer and more.

Website:
www.mullwildlifeholidays.com
 @MullWildlifeHolidays



Matthew Appleby

Matthew Appleby is a translator and interpreter specialising in ecology. His journalism and fiction have appeared in a number of online and print reviews. He is currently based in Manchester.



Paul Greaves

Paul is the Skills for Rewilding training programme manager at Trees for Life. Previous roles include volunteer coordinator and invasive species officer for Eden Rivers Trust, an environmental charity in Cumbria. He is a graduate of the University of Cumbria's Animal Conservation Science degree course.

Website: treesforlife.org.uk
 @treesforlifeuk
 @treesforlifeuk



Rebecca Gibson

Rebecca Gibson is a wildlife writer who has a particular passion for woodland habitats and macro photography. She writes about her travels on her blog "On The Wing" where she aims to inspire others to protect wildlife for future generations.

Blog: rebeccaonthewing.com
 @rebeccaonthewing

Contact Us

Let us know what you thought about this issue of New Nature, or what you would like to see in future issues.

We are always on the lookout for young writers, photographers and artists. Please get in touch if you are interested in submitting work.

editorial.newnature@gmail.com

www.newnature.co.uk

/NewNatureMag
 @NewNature_Mag
 /NewNature_Mag

Have something to say about New Nature?
Take our questionnaire now: buff.ly/2UMJ811

© New Nature 2020. All rights reserved. No part of this magazine may be used or reproduced without the written permission of the publisher, New Nature. All information contained in this magazine is for information only and is, as far as we are aware, correct at the time of going to press. New Nature cannot be held responsible for the accuracy of the information herein, or any consequence arising from it. Readers are advised to contact organisations directly with regard to the information referred to in this magazine. If you submit material and articles to us, you automatically grant New Nature a licence to publish your submission in whole, or in part, in the magazine in any physical or digital format throughout the world. Any material you submit is sent at your own risk and, although every care is taken, neither New Nature nor its editorial team shall be liable for any loss or damage. Opinions expressed by contributors to New Nature are not necessarily those of the New Nature team.