

THE GREEN FUSE

A natural history magazine created by young naturalists for young naturalists



Issue 2
Spring 2021

WELCOME

Welcome, this is the spring edition of The Green Fuse, a natural history magazine created by young naturalists, for young naturalists.

The name 'The Green Fuse' was inspired by Dylan Thomas's poem. The editorial team of The Green Fuse are home educated children in the UK, many of them live in Carmarthenshire, the home of Dylan Thomas, so we found The Green Fuse a fitting name to take.

We created this magazine as we wanted to spread our love of nature and to inspire others. We wish to encourage more children and adults alike to learn to love nature, so that we can all do our bit to try and protect it. At the moment, we are a small team of contributors, but we wish for more inspired young people to join us and help make future issues of The Green Fuse!

Home educated children and young people are sometimes overlooked or not taken into account. We hope that, in making The Green Fuse, we can prove that home educated kids can do amazing things. Having said that, we of course welcome contributions from any young people!

To contact us, please email us at:

thegreenfusemagazine@gmail.com.

We would love contributions for our next issue, any articles, artwork and activities on a natural theme would be warmly welcomed. So please, don't be afraid to take part! If you let us have your creations by 1st June 2021, you may well see them in the summer issue!



The Force that Through The Green Fuse Drives the Flower

The force that through the green fuse drives the flower
Drives my green age; that blasts the roots of trees
Is my destroyer.
And I am dumb to tell the crooked rose
My youth is bent by the same wintry fever.

The force that drives the water through the rocks
Drives my red blood; that dries the mouthing streams
Turns mine to wax.
And I am dumb to mouth unto my veins
How at the mountain spring the same mouth sucks.

The hand that whirls the water in the pool
Stirs the quicksand; that ropes the blowing wind
Hauls my shroud sail.
And I am dumb to tell the hanging man
How of my clay is made the hangman's lime.

The lips of time leech to the fountain head;
Love drips and gathers, but the fallen blood
Shall calm her sores.
And I am dumb to tell a weather's wind
How time has ticked a heaven round the stars.

And I am dumb to tell the lover's tomb
How at my sheet goes the same crooked worm.

By Dylan Thomas

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Rose Fulton (12)
Editor, Illustrator, Journalist, Graphic Designer

I am home educated and a keen naturalist. I have always loved nature and have recently become interested in meteorology. I particularly enjoy birdwatching and woodland walks.



Megan George (11)
Co-editor, Photographer, Journalist

I am a young naturalist living on a farm in the beautiful countryside of Carmarthenshire. I love photography and watching wildlife and particularly birds, but my favourite animal has to be my pet sheep Daisy.



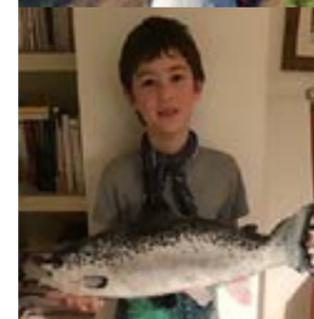
George Rover (14)
Co-editor, Web Designer, Journalist

I am a home educated nature enthusiast. I live in the countryside of south-west Wales. I love to read. I am passionate about wildlife, conservation and the environmental impact of humans. After saving up, I have just bought myself a camera and love spending time at our river.



Tom Fox-Dean (14)
Co-editor, Journalist, Photographer

I am Cornwall based and home educated, this gives me a lot more time to explore the Cornish coast and walk the cliff paths. I find sea life fascinating and love freediving with my underwater camera. I also love playing cricket and hockey.



George Fulton (10)
Co-editor, Illustrator, Photographer, Journalist

I love aquatic life. I like birds and would like to work in conservation when I am older. I have my own museum with lots of natural history exhibits. I love drawing and creating things.



Libby Greenhill (12)
Co-editor, Writer, Journalist

I am an enthusiastic naturalist, who loves going on walks through the woods and spending time with my pets. I have always loved writing, and have started writing more stories and poetry about nature.

An interview with

FREDI DEVAS

By Rose Fulton, Megan George, George Rover, Tom Fox-Dean and George Fulton



Photograph by Paul Thompson

What is your earliest memory of connecting with nature?

The first thing that comes to mind is eating mud with my Grandfather, who was an ornithologist. He was in the navy in the Second World War and wrote several books on sea birds. During his time at sea with the Royal Navy, he made sightings of all sorts of different sea birds. From these sightings, he started to map out the routes the different sea birds were taking.

I grew up in the south of France and a really early memory is being outdoors with him and seeing what it was like to eat mud and grass. It wasn't very good! That's a really visceral connection to the natural world when you're eating it!

Who was your role model growing up?

David Attenborough, of course, was a big role model for me. Jane Goodall and her work with chimpanzees, she did something huge in terms of looking at animals as individuals. Before her work, science was looking at general trends in behaviour across populations. For example, you have a big group of baboons and you want to know why they are fighting, so you learn about the group's dominance hierarchy. What Jane Goodall started doing with the chimpanzees, though, was to say "that individual doesn't fight as much as that individual. Why is it that different individuals have different strategies?" So I did a PhD on baboon behaviour and it turned out that between the adult males you do get two types, the "lovers" and the "fighters". The fighters tend to be big males that dominate through fighting. The lovers tend to hang around with the females more often, to look after the infants more, to build more trust and to make more of a friendship bond, an allegiance bond, with the females, and so benefit from more protection from the females.

So it becomes quite interesting when you look at the behaviour of individuals. I think that is where the future lies for a lot of the questions we are going to ask about the natural world. Why is THAT one doing THAT, as opposed to why are ALL of that group doing that?

If you see a new behaviour in an individual then we also need to know how the behaviour moves through the group. In primate studies, they have shown that new behaviours move through the group via the relationships between individuals. A study of Japanese macaques involved scientists putting a pile of muddy potatoes on a beach. The macaques really wanted to eat the potatoes but they were so muddy. So this one female took a potato to the sea, washed it and began to eat it. It was the adult females that learnt the behaviour first, then their infants and then the adult males, they were the last to learn this new behaviour. The Japanese scientists then put some rice on the same sandy beach. The macaques were picking up one grain of rice a time and then losing interest. Interestingly, the same adult female grabbed a handful of sand and threw it in the sea, the sand sank and the rice floated, then she scooped up the rice and ate it. The scientists noted this novel behaviour and looked to see who would copy it, and again it was all the adult females, her closest allies learnt first, then their infants and then the adult males last. There are so many interesting things there: why was this particular adult female the one to work out the solution to the problem in both of these instances? Is it just that she likes going to the sea more than the others, or is it because she is a bit of a problem solver? And then, why were the adult males slower to pick up this new behaviour? Slower than the infants? Is it that the adult males aren't observing the females enough? There are lots of interesting questions still out there to answer.

What is your favourite animal?

I don't have a favourite animal, I can't make that choice, but I can answer in a different way: if I was to be an animal, I would most like to be a hyacinth macaw because they live to fifty years old, on average. They eat fruit from the Amazon, get salt from the clay licks and they are very gregarious and social. So they look like they have a wonderful time, eat lovely food and get to fly!



Photograph by Megan George

What's your favourite sea creature?

I think the humpback whale. I think they are so fascinating and I love the songs they sing. Did you know that humpback whale poo is rich in nitrogen and iron? In cold water, the limiting factor for plant life (phytoplankton) to grow is iron, whereas in warm water it's nitrogen. So wherever the humpback whales are, but especially when they're in cold water, when they poo you get a big fertilisation of the surface of the water. They also seem to poo at the surface. So then in the photic zone, the light zone, you get all this plant life suddenly blooming and reproducing, and that feeds the krill. The Japanese have been arguing that humans like to eat krill, it is used in pet food and krill oil is also sold. They argue that, when we kill whales that eat krill, we are therefore doing a good thing for humans. However, what they've found since the whales have been coming back to Antarctic waters is that, because of their poo, the increase in whales has meant a corresponding increase in krill. Even though the whales are feeding on krill, the number of krill is increasing. This shows the Japanese whalers know nothing about whale behaviour!

Humpbacks are not only clever, they're also considered ecosystem architects, which is a nice new term. When they come back, they restore the whole ecosystem. When you take a whale out of an environment, you're not just taking the whale out, you're taking out a whole architectural component. Another word for that is a 'keystone species', such as wolves in Yellowstone. They are now finding more and more of these keystone species.



What aspects of nature are you most interested in?

When I first started, I was interested in animal behaviour from an evolutionary perspective, so I was thinking, "why has that behaviour evolved?" And really, fundamentally, I was most interested in the cognitive decisions that primates make, like "why would they make the decision to be friends with that individual rather than that individual?" There was one thing that fascinated me that is still unanswered: why do animals make the decisions they make in groups? For example, when you see a flock of starlings, they all take off from one city garden and they all land in another city garden, and no one knows who's making that decision – is it a leader, or is it democratically decided? Or is it a combination of the two? Is it that the hungriest leave first and they decide where to go next? Or is it the most dominant who leaves first? There are lots of questions out there about animal behaviour and especially group decision making which I would love to find out.

But right now, by far the most important aspect of the natural world that I am interested in is how to save it, as it is really under threat. We need to show people how special the natural world is but also to show the threats it is facing and then, very importantly, the solutions, some of which are really simple. For example, we recently rescued a dog from Romania. I'm a vegan and I know about the issues to do with meat consumption and what that means for the natural world: the more farmed animals you have, the less natural world you have – pretty simple. But then I was thinking "hang on, we're feeding our dog meat". Then I managed to buy pet food made of insects. From an environmental impact, it is thought that the difference between growing wheat and rearing insects is minimal.

What are your fondest memories of the baboons of Namibia?

I was following one group of 21 individuals, a group with only one male, which is very unusual. The group had one big alpha male, he was incredibly strong. What happens is, when the males get to a certain age, they disperse and the females stay behind with their mothers. You get these hierarchies between the females in the group – the most dominant female, then her daughter, and then her daughter. Then you get the next most dominant female, her daughter and her daughter. So there are these infant baboons that are more dominant than an adult female baboon. You get these female lines that stay in the group, then you get these males that get to a certain age and then need to leave the group and try to take over another group. There was this young adult male trying to take over the group I was following, but he was getting pretty beaten up by the resident alpha male. He came to me and did this "come hither" face, raising his eyebrows. He was signalling to me to help him out. And I obviously wasn't going to get involved, but I did find it particularly hilarious.

Spending all day from dawn to dusk with them, there were so many moments which were enjoyable. I think my most enjoyable times were spent watching the juveniles. The infants were very cute, playing with the females, but the juveniles began to feel like the boss around town and used to get up to all kinds of tricks. There was this one moment, I was photographing them, the light was just beautiful, the sun had just risen, they have this beautiful golden coat at that stage, and it looks absolutely amazing. The light was so good, I thought "I'm going to change lenses", but I had no time to put my lens cap on, I just put it down on the rock, changed the lens, and went round taking more photographs of them. Then I looked through my viewfinder and saw this juvenile pick up my really expensive lens! I froze and gave a really shocked look and he looked straight back at me, then he put the lens back on the rock and ran off! It was absolutely brilliant. I mean they break everything, but when it came to photographic equipment, they knew their manners.

What does a tv producer do?

I work on these programmes that take about four years to make for one hour of tv. I spend the first year with a team researching stories, talking to scientists. We look at any videos that might appear in forums or on YouTube. We look for animal behaviour that relates to the story that we're telling. So if it's Antarctica, we look at the Antarctic continent but also the issues that we're trying to raise about the Antarctic. So with Antarctica, we're trying to say its hostile and its remote, we're saying that it's spectacular but also that it's vulnerable, vulnerable to human activity.

So we work out a narrative arc of what we want to tell, and then weave in the animal stories so that hopefully it all joins together to tell one big story. We spend the next two years filming and then we spend the last year putting it all together in the edit. That's when we bring all the footage together with the sound recordings, we write the script, we go back and forth with David Attenborough about the script. Then we go back and forth to the composer about the music. There's all kinds of stuff that we call "post-production" – the way it's coloured, the sound effects, as well as the music. The final mix is when you have all the pictures right, David's narration, the music and the wildlife sound that you have collected, and you have to mix them so they all sound ok. There is a magical last three days of doing that as you finally put it all together. It's very visual, it's story-telling and it's biological – it's a really nice mix.

Which nature films, documentaries or series do you most recommend to our readers?

My Octopus Teacher is amazing, amazing, amazing!! My friend worked on that, James Reed, it's amazing! Episode one of Frozen Planet is pretty special, that takes you from top of the North Pole to the South Pole.

What is the most amazing natural phenomenon you have ever witnessed?

I have seen glaciers calving in the Antarctic, that's extraordinary, it sounds like a cannon going off. Actually, up in the Arctic I saw one. We were in Svalbard filming polar bears and this enormous chunk of ice crashed into the water. I was in a tiny dingy, and that could have been really dangerous because the wave would have flipped us over. I had a really good skipper who was able to zoom us off in the opposite direction with a huge wave chasing us. That was quite amazing. What I loved was looking back, all the birds were really excited because the chunk of ice brings up all the life from the seabed when it crashes in, then the birds try and scoop it up off the surface of the sea.

What advice would you give to a young naturalist?

For me a curiosity of why animals and plants looked and behaved the way they did kept me wanting to explore more and more about the natural world. And the more time I have spent in it and thinking about it the stronger my love for it has grown. So my advice would be to get outside at every opportunity and keeping asking questions.



Photographs by Rolf Steinmann

Cornish Seals

By Tom Fox-Dean

In Cornwall our main type of seal is the grey seal but occasionally we get a visit from a common seal or harbour seal as it's more commonly known.

While harbour seals are smaller and more agile, grey seals are a lot bigger. Seals' main diet is small fish, sandeels and dragonets. Grey seals pup (give birth) from August to December while harbour seals do so in the summer.

If you ever go to see seals, there are some rules you should follow, like don't make sudden movements or sounds and keep dogs well away. A seal can damage itself racing across the rocks and beach to get to the safety of the water. If a mother seal gets scared, she may abandon her pup on the beach and swim out to sea, so it's vital not to disturb them.

The thing I find most fascinating about seals is that every seal has its own unique pattern on its fur like you and I each have our own finger print. That's how you can identify them by taking a photo of a seal and then comparing them to other photos and seeing if it's the same seal.

We hope to have an interview with the Cornwall Seal Group Research Trust for the summer issue.

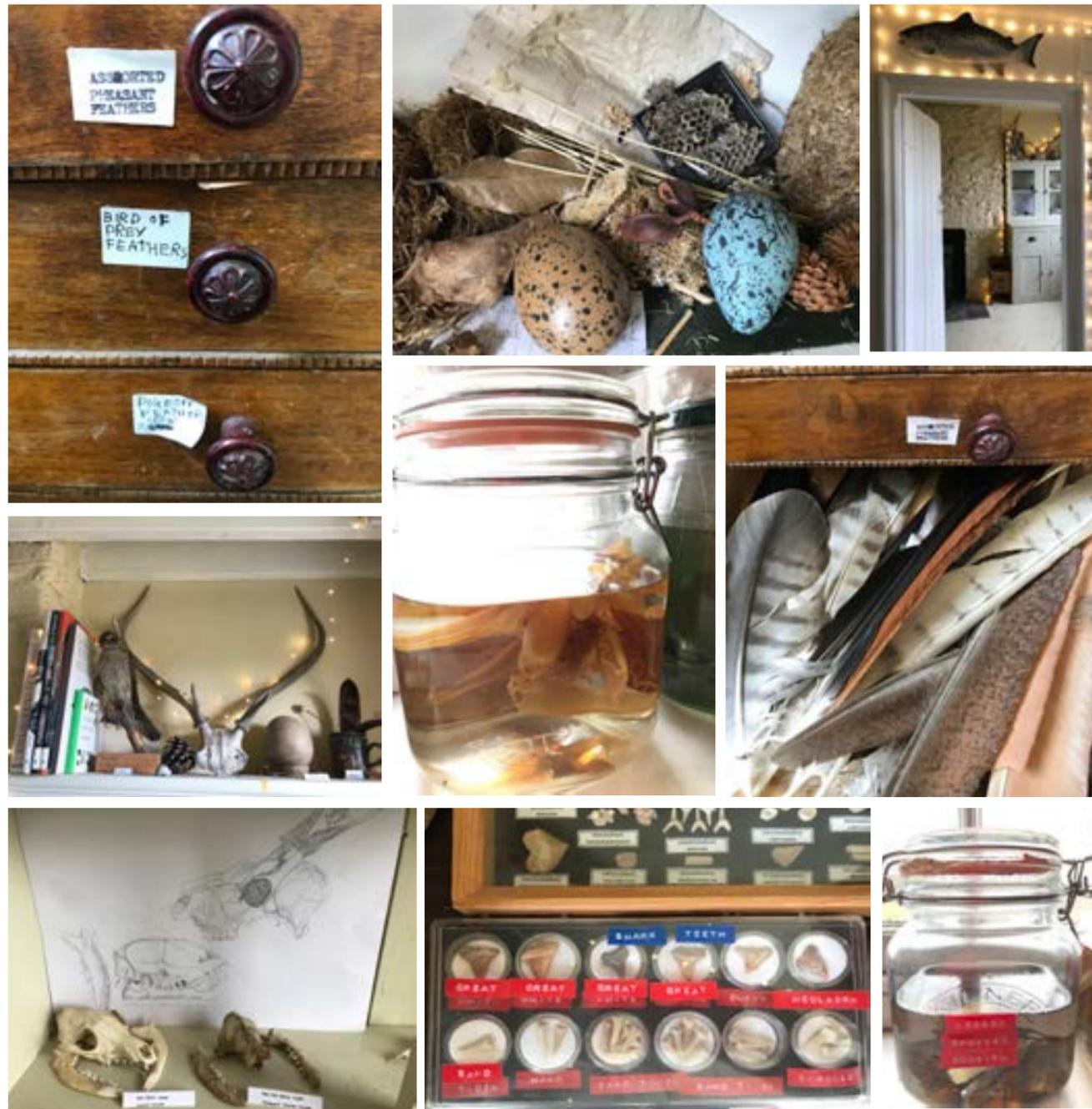


Photograph by Tom Fox - Dean

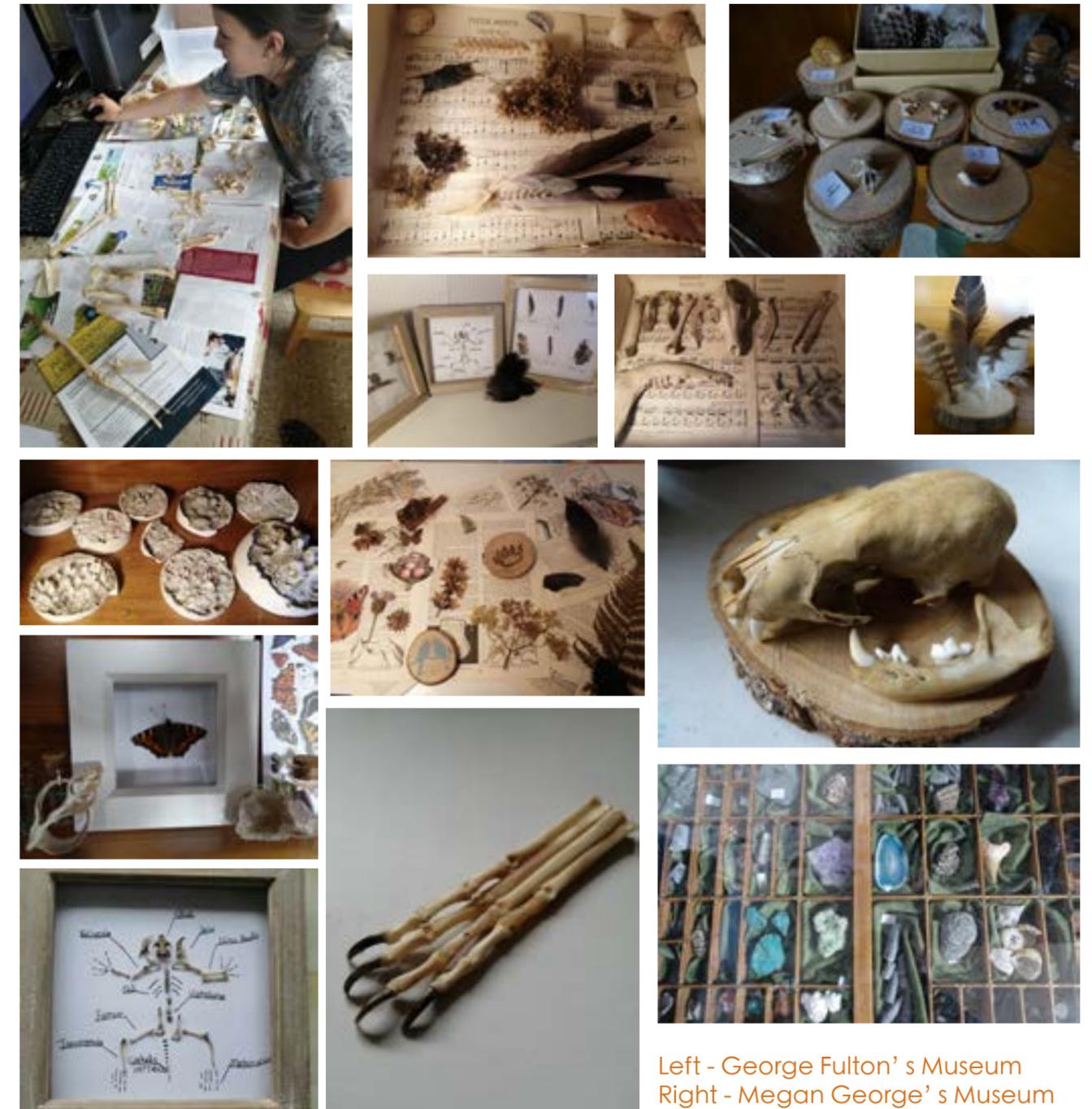
Curious about the natural world? Like collecting things? Why not start your own natural history museum?

By George Fulton

As long as people have been curious or have had an urge to collect things, there must have been museums of some kind. We know that the ancient Babylonians, ancient Greeks and Romans all had collections that were important to them. Most museums started like mine, by having a small collection of treasured items, a collection that grew until it needed a cabinet to live in. In the fourteen to seventeenth centuries, these collections became known in Europe as “wunderkammer” or curiosity cabinets. By the time of the Renaissance, these popular cabinets had grown and taken over whole rooms.



My museum started as a collection of objects that slowly increased in number as people gave me things and as I found or bought items that appealed to me. The nucleus of the museum was a stuffed and mounted sparrowhawk (*Accipiter nisus*) with a removable head that was given to me by my aunt and uncle who had found it in their attic (the head and body were found separately). The collection grew as more and more people heard that I was collecting and started to give me things they had inherited or had scavenged at jumble sales, such as ostrich eggs, pieces of coral and so on. Sometimes I was just too late, such as when I missed a pickled shark just a couple of days after it was consigned to the skip. I soon started to build up collections of bones, skulls, skeletons and feathers. A couple of years ago, the gem of my collection was donated, again by my aunt and uncle, in the form of a taxidermy albino (or possibly leucistic) pheasant (*Phasianus colchicus*). My ability to preserve exhibits soared when I learnt how to pickle organic exhibits, this part of my collection now includes a baby pike (*Exos lucius*) I found in the River Cothi, as well as several mermaid’s purses and what my mum refers to as The Creepy Frog (*Rana temporaria*).



Left - George Fulton's Museum
Right - Megan George's Museum

My top five favourite items, in no particular order, are: the beautiful and intricate skull of a cod (Gadus morhua) given to me by the curator of a shell museum on the Dutch island of Schiermonnikoog; the rib of a cow that I found on the beach which my grandfather believes belonged to a cow (Bos taurus) being exported by ship during the second world war; part of the skull and the antlers of a roe deer (Capreolus capreolus) given to me by my grandfather's friend; the cranium and jaws of a fox (Vulpes vulpes) given to me by a friend of my mum's; and, last but not least, my collection of birds' eggs, which includes a number of hand-made replicas such as the egg of a great northern diver (Gavia immer), a guillemot (Uria aalge), a curlew (Numenius) and a sparrowhawk (NB my egg collection does not have any intact eggs that have been taken from the wild). I love my museum for all sorts of reasons, from the pleasure I get from typing out identification labels on my Oliver Courier typewriter, to being sent weird and wonderful items by people I've never met, to opening my museum in the morning by unclipping the crimson velvet rope to admit the (okay, non-existent) visitors. I thoroughly recommend starting your own museum as it gives a focus to your collecting or preserving activities. All you need to start is a few curiosities and a bit of space to keep them in. If you're curious about the natural world and you like collecting things, starting your own museum is definitely the way to go.

Please share photographs of your collections, nature tables or museums with us via email at thegreenfusemagazine@gmail.com or via our website gallery www.thegreenfusemagazine.com



Megan George's Meuseum



George Fulton's Museum

Rewilding

By George Fulton

If we were to cast our minds back four thousand years, we would see Britain as a balanced, stable and healthy ecosystem with enough predators to keep prey species in manageable numbers. Back then, humans had very little impact on natural ecosystems. If we were then to fast forward from four thousand years ago to about five hundred years ago, apex predators (an apex predator is one that itself has no natural predators, except perhaps humans) such as lynx, wolf and bear had been hunted to extinction in Britain, leaving the deer population to swell. Humans were, by now, having significant impacts on ecosystems. For example, the last written record of a beaver in Britain was in 1789 (1). The loss of the beaver left our ecosystems unbalanced, with much unpredictable flooding. Also, trees were not being kept in check so younger trees and vegetation were not getting enough light and were dying.

When human activity damages, disrupts or destroys ecosystems, the impacts can be serious. Take, for instance, the grey squirrel, which was introduced into Britain from North America in the nineteenth century. The growth in numbers of the non-native grey squirrel has had a devastating impact on the native red squirrel in Britain. At the same time, the extensive culling of grey squirrels involves what I believe to be inhumane and cruel methods. Just think, over the last two hundred years, 413 species of flora and fauna have become extinct in England alone (ref: natural England/Biodiversity Challenge/ IUCN). It has only been recently that people have realised the impact of these multiple extinctions. People often imagine no apex predators being a good thing but really they hardly ever harm humans and in fact their loss hit us extremely hard.



Rewilding is a process that reintroduces previously extinct species (both flora and fauna) and lets the land regenerate and rebalance itself after years of intensive agriculture and livestock farming. Rewilding Britain, a charitable organisation founded in 2015 to promote the rewilding of Britain, defines rewilding as follows: the large-scale restoration of ecosystems to the point where nature is allowed to take care of itself. Rewilding seeks to reinstate natural processes and, where appropriate, missing species – allowing them to shape the landscape and the habitats within (2). The majestic ancient woodlands of our ancestors were felled to make room for fields and pastures. However, by rewilding and reintroducing apex predators, from the embers of extinction and intensive agriculture, the flame of balance and diversity can be rekindled.

The reason why top predators are so important all starts with their relationships with other animals in the food web. So reintroducing animals such as beavers, bison, wild boar, wolf, lynx and bear in controlled areas means that we can rebalance these territories, regenerate the soil and let the native deciduous trees take the place of mono-cultured farm land. Rewilding benefits us by reducing pollution and greenhouse gases, such as methane from cows. We benefit from having more diversity and we would also be surrounded by more incredible creatures. Britain is currently one of very few countries with no top predators whatsoever and currently our largest and most “dangerous” land mammal is the cow!

The good news is, rewilding is underway in Britain. Bison are being reintroduced to some secluded parts of Britain in 2022 (3). These wonderful beasts are extremely useful in many ways, including the fact that they scratch against trees, creating much more dead wood for insects to live in, meaning that there are more insects for birds to eat, and in turn meaning that there are more garden birds to make our gardens a better place and to provide more food to be eaten by birds of prey such as sparrowhawks. Beavers have already been introduced in Britain, returning to parts of Wales, Scotland and England starting in 2009. These furry friends are incredibly useful because, by building their dams, they reduce flood damage and create more wetland areas that are a haven for protected species such as great crested newts and bitterns. Beavers also help us by keeping evergreen forests in check and giving deciduous trees a chance. Another good example is the reintroduction of wild boar in Britain, the best known herd being in the Forest of Dean. Wild boar are helpful in the way that they overturn the earth in their search for truffles. When seeds and acorns fall into these pockets of space, the boars are essentially planting trees. They also uncover insects and grubs for birds to eat, and make dead wood for insects in the process of sharpening their tusks on trees.

As we have seen, rewilding allows ecosystems a new lease of life, increases biodiversity and promotes habitat restoration. If you’re interested in rewilding, why not start in your own garden? Taking steps like stopping using chemical pesticides and fertilisers, not mowing an area of your lawn and creating a log pile can all make a real difference. For more ideas on rewilding your garden, visit the Rewilding Britain website. Once you get into rewilding, you might find, like I do, that it just makes proper sense and deepens your connection to the natural world.

(1) Last written record of a beaver in Britain: <https://www.nationalgeographic.co.uk/environment-and-conservation/2017/11/beavers-are-mysteriously-back-britain#:~:text=In%20truth%2C%20no%20one%27s%20sure%20exactly%20when%20the,other%20regions%20of%20the%20country%20long%20before%20then.>

(2) Rewilding definition: <https://www.rewildingbritain.org.uk/explore-rewilding/what-is-rewilding/defining-rewilding>

(3) Bison being reintroduced in 2022: <https://www.theguardian.com/environment/2020/jul/10/wild-bison-to-return-to-uk-kent>

Welsh Beaver Project

By George Rover

Did you know?

Beavers are native to Britain, but they have not lived here for approximately 400 years. Excitingly, since 2005 the Welsh Beaver Project has been investigating the feasibility of bringing wild beavers back to Wales. This work is being led by North Wales Wildlife Trust on behalf of all five Wildlife Trusts in Wales, as part of their Living Landscapes strategy and they now hope to undertake a managed reintroduction to Wales. Beavers are very special animals because they play a vital role in enriching biodiversity by restoring and managing river and wetland ecosystems. They can play an important part in rewilding the UK.

Where are our beavers now?

The Eurasian Beaver (*Castor fiber*) is native to Britain, with a distribution that extends across Europe and into Asia. Beavers were once widespread across Britain, but due to over-hunting by humans for their fur, meat and scent glands they became extinct after the Middle Ages.

In 2009 the very first beaver reintroduction to Britain took place in Scotland. This was the Scottish Beaver Trial (a partnership between Scottish Wildlife Trust and Royal Zoological Society of Scotland (RZSS)). In 2019 the Scottish Government announced that beavers could remain in Scotland and they were granted European Species Protection in line with the EU Habitats Directive. Beavers are back in Scotland! (scottishbeavers.org.uk)

A reintroduction trial has also taken place in England on the River Otter in Devon. The River Otter Beaver Trial was led by Devon Wildlife Trust and monitored over five years from 2015. The trial came to an end last year and in August 2020 the government announced that the beavers on the River Otter could stay (River Otter Beaver Trial/Devon Wildlife Trust). Thanks to the Cornwall Beaver Project (Cornwall Beaver Project/Cornwall Wildlife Trust), beavers are also back in Cornwall. The Cornwall Wildlife Trust website states, “[t]he potential to alleviate flooding is particularly important since the site is situated upstream of Ladock, a village increasingly affected by flooding”. The potential impact of the beavers here and their re-introduction to Wales may be of particular interest to residents in Wales, who, in recent years in particular, have experienced the sometimes devastating impacts of regular flooding incidents.

Photographs by Alicia Leow-Dyke



As Alicia Leow-Dyke, Welsh Beaver Project Officer, says: “Wales has abundant habitat to support beavers and we are currently working on a licence application for a managed reintroduction into the Dyfi catchment. We are still working on our proposals and, in due course, Natural Resources Wales (NRW) will run a public consultation for people to have their say, before a decision is made by NRW. In addition, the Welsh Beaver Project has also been assisting Montgomeryshire Wildlife Trust with their plans to release beavers into an enclosure at their Cors Dyfi Nature Reserve, near Machynlleth. Cors Dyfi is a lowland peat bog but was once used as a conifer plantation and this has damaged the site. The old ditches and tree stumps that are the remnants of the old forestry plantation mean that it is difficult to manage the reserve using traditional methods, such as coppicing by hand, therefore alternative management options have been considered and this includes beavers. The beavers will be released into an enclosure where they will help to manage the reserve. Although this project is not a reintroduction to the wild, it will demonstrate how beavers’ natural activity can actively support habitat restoration. We have applied for a licence and we are now waiting for a decision from NRW, but we hope to release beavers into the enclosure this spring”.

Beaver activities can sometimes conflict with human activities in land use, and some farmers think they could throw off the balance between farming and wildlife. The Welsh Beaver Project believes a ‘beaver management system’ would help mitigate concerns. Alicia Leow-Dyke says a system to manage the reintroduction had been designed after the trials in Devon and Scotland.: “We do recognise that in some areas beaver activity may not be suitable”. In 2008 a beaver pair were released into an enclosure at Blaeneinion, a conservation project near Machynlleth, and they have been credited with engineering the landscape and helping with flood management. There is another enclosed beaver site near Llangors in Wales.

Facts about the Beaver

- There are two species of beaver: the North American beaver (*Castor canadensis* – Native to North America from Canada, across the USA and to northern Mexico) and the Eurasian beaver (*Castor fiber* – native to Eurasia, distribution across Europe and into Asia and native to Britain).
- An adult Eurasian beaver can be up to 1m long with a 50cm tail and weigh up to 30kg (though the average is approx 18kg). The Capybara is the only rodent that is larger.
- Beavers’ eyes, nose and mouth are arranged towards the top of their heads, staying above the water when swimming.
- Beavers have a set of transparent eyelids (called nictitating membranes) which protect the eyes under water whilst also enabling them to see. They also have nose and ear valves that close to keep out water when submerged and, as the Wildlife Trusts Wales website states, “perhaps most useful is that their lips close behind their large front teeth, allowing the beaver to transport building materials and food without drowning”.
- Beavers’ large teeth never stop growing, and could grow longer than the entire body length of an adult beaver each year if the beavers weren’t constantly gnawing on wood!
- Beavers are monogamous, which means they mate for life.
- Beavers are slow breeders, producing only one litter per year with an average of 2-3 young (known as kits).

- Beavers reach maturity at 2-3 years old - at this age they may start to disperse from their family group to find a new mate.
- The beaver is mainly nocturnal, is semi-aquatic and can remain underwater for up to 15 minutes at a time. They prefer to stay in or near water.
- Beavers have stiff tails that they use to balance themselves when sitting on land and to help manoeuvre them through the water. They also slap their tails loudly upon the surface of the water when they sense danger.
- They are strictly herbivorous - they do not eat fish. They have a wide dietary range which includes the bark from willow and birch trees, as well as herbaceous and aquatic vegetation.
- Beavers coppice trees, so the trees do not die. Coppicing means cutting trees or shrubs right down to the ground, encouraging rapid regrowth. As Alicia Leow-Dyke says, “[t]he root system is still intact and shoots can regrow. Coppicing can prolong the life of the tree and the root systems can help stabilise banks”.
- Beavers build dams across smaller streams which can help regulate water flow by slowing it down. This can also help reduce the risk of downstream flooding. Alicia Leow-Dyke told us that “beavers tend to build dams on smaller streams and tributaries to help stabilise water levels, and they usually do this for two main reasons: to ensure that the entrance of their lodge is underwater, and to ensure that feeding areas are near to water”.
- Beavers are a ‘keystone species’ (a species that helps an entire ecosystem. Without its keystone species, the ecosystem would be dramatically different or would come to an end altogether). Beavers are commonly known as ecosystem engineers - they help to restore natural processes, wetland and river ecosystems. Supporters of rewilding believe that beavers are important to have in the UK.

The Green Fuse Magazine team will be following The Welsh Beaver Project closely and will update our readers on developments.

More information on the Welsh Beaver Project can be found on their website:
[All about beavers | North Wales Wildlife Trust.](#)

Many thanks to Alicia Leow-Dyke and the Welsh Beaver Project, North Wales Wildlife Trust and Wildlife Trusts Wales for their contributions and support in writing this article for The Green Fuse Magazine.



Photographs by Alicia Leow-Dyke

An interview with David Cowdry

By Rose Fulton

What came first, your love of art or your love of nature?

Whilst growing, up every opportunity was taken by my parents to head out into the countryside or to the coast, so my love of nature definitely came first. I'd spend hours, sometimes whole days searching for birds and reptiles and insects. Art came much much later.

Do you paint from real life or photographs?

I use both. Painting and sketching outdoors certainly has its challenges but I think you gain more from the experience than if just using photographs. Much of my work is photography-lead, but with a solid backbone in observation and sketching and painting out in the field. Even when using a photograph as reference for a painting, the artist has to put something of themselves into the painting, something extra, something that the photograph does not possess on its own. Memory from hours, days, months and years of observation also plays a huge role in putting my paintings together.

When did you become good at painting?

In truth I've never thought that I was good at painting. It's the curse of the artist to find the faults in their work and to strive to be better. Often we are too close to our own work to see the merits in it and instead we agonise over the validity of what we do. When I look back over the years at paintings I did and then look at what I paint now, I can see that I've improved a little more as each year has ticked by and that suits me just fine.

How do your paintings look so realistic?

That just comes from years of observation and practice, plus I've always wanted to show wildlife and nature as it is rather than paint it in any other style. Light and atmosphere play an important role in my work and trying to depict both in my paintings I think helps to give a sense of realism. My work is also not as detailed as people often think. I paint quickly and only put just enough information onto the canvas so that when the viewer stands back from the painting their brain will take in the information I have given them and then fill in the blanks. This, I believe, will result in a more realistic painting than if you painted every tiny detail.

Who has influenced you as your career developed? Did you have a mentor?

So many artists have had an influence on me and it's impossible to admire an artist's work without perhaps a little of what they do permeating your own work in some way, however small or seemingly insignificant. A huge influence on me when I first started painting and a huge influence on so many wildlife artists is the Canadian painter Robert Bateman. A master of composition, and he portrays atmosphere very well. Andrew Wyeth I also hold in high regard and an influence in some of my paintings. There are so many other artists that have played a helping hand in bringing together my own style, far too many to mention.



What medium do you use in your work?

I started with oils and for many years I continued with oils. More recently, I have added acrylics to my armoury but I still paint in oils too. When painting and sketching outside, I use watercolours and charcoal.

Have you got a favourite piece of art you have made, if so what is it?

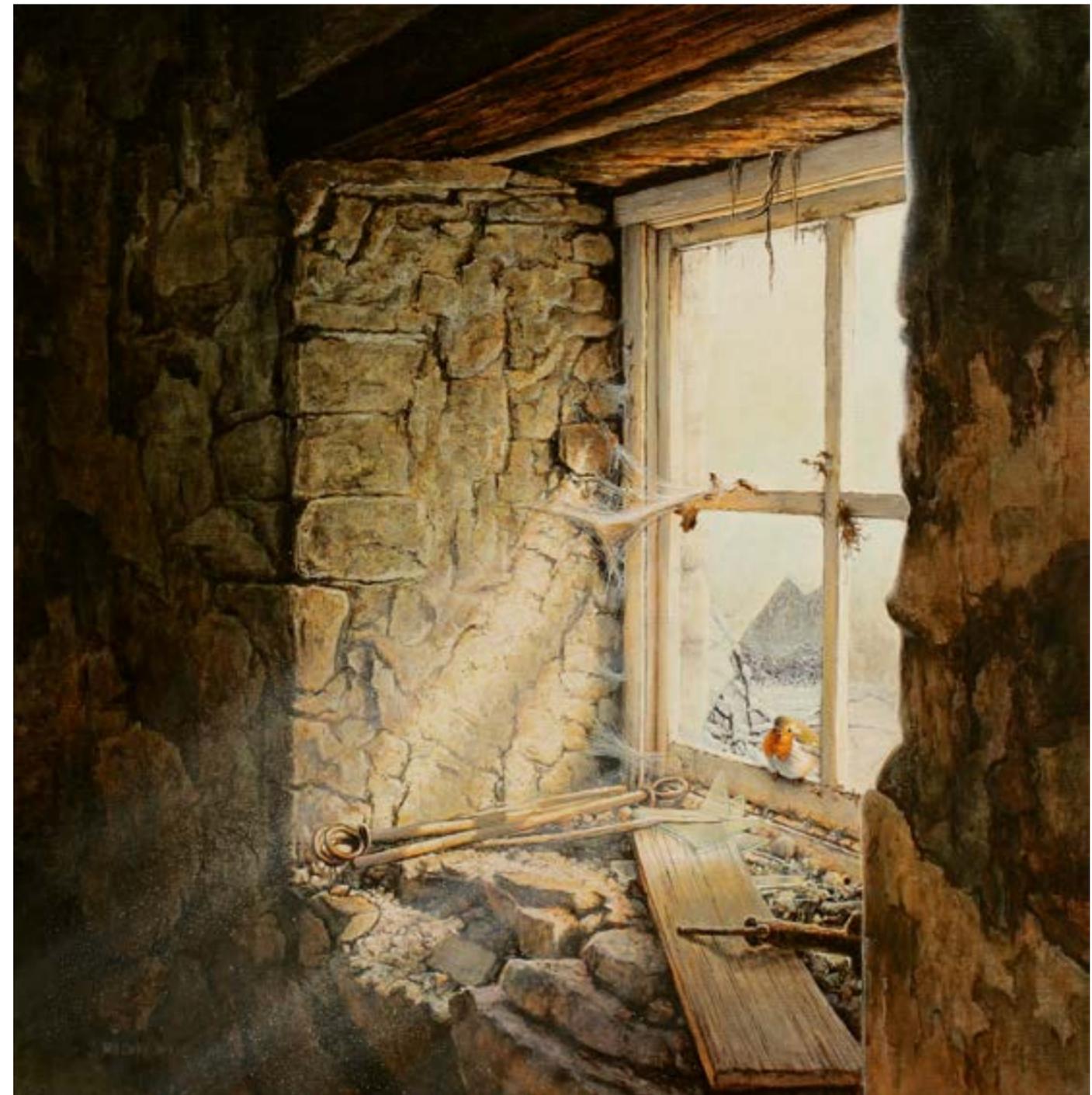
That's a tricky one too. My favourite painting seems to change on a weekly basis. I quite like some of my underwater fish paintings but I'm not sure if it's the quality of the painting or just that the subject matter takes me into another magical, mysterious world that we don't often get to see. Many years ago, one winter, I found an old abandoned dunnock's nest and took it from the hedge and decided to make a painting of it. I drew it out in pencil first then painted it in oils. It was one of my very first oil paintings and is still one of my favourite paintings I've done. It's hard for me to have a favourite as every single painting I've ever done I would change parts of them if I had the chance!

What is your favourite animal to paint?

That's a tricky one to answer. My paintings are all about light and atmosphere and the animals and birds and fish that appear in them are often secondary to the actual scene. There are exceptions of course, so if I had to choose favourites to paint then, for mammals, it would probably be hares, for birds snipe or kingfishers and for fish I think it would have to be perch.

Have you been doing much art in lockdown?

The honest answer is no. I should have, I wanted to, I intended to, I had big plans but it just didn't happen! I sketched and painted outside a few times and I painted a large portrait of Chris Yates, a famous angler who writes beautifully about angling and nature. I've painted a few experiments which may or may not see the light of day upon a gallery wall some-time, but other than that my creative mind has been elsewhere. I think it's been the same for quite a few of my artist friends. Many have also not been able to find their creative drive with the uncertain nature of what's going on in the world at the moment. On the plus side, our garden has never looked so good!



If you could give a young naturalist one piece of advice, what would it be?

Go quietly and tread lightly and be thoughtful, to respect and observe and help protect our beautiful world and all that lives within it.

What advice would you give a young artist?

To observe closely and draw and paint from life as much as you can. To study the work of artists that you admire and look to see how they have done things. Paint, draw, sculpt, whatever it is that you want to do, then do it and do it with enthusiasm, passion and soul and never let anyone tell you that you cannot do it.

FUTURE EARTH

By Libby Greenhill

I dream about the future.
A world that is safe,
Filled with understanding,
A place you don't fear.
No icebergs melt.
Few gases plume the atmosphere.
We no longer destroy our world.
We no longer destroy our home.
And trees are not cut down
Just for paper and land,
The trees are left in peace.

We do not poach,
We do not kill
The creatures of the wild.
We help them to survive.
For they are now our equals,
We treat them with respect.
For we are merely stewards of this
planet.

The mountain side is full,
Of trees filled with lush green leaves.
And bark of silver and brown.
Pure white stars flicker in the skies.
A silver moon clear through the
atmosphere.
The colours of the sky.
Green and red and blue,
Spreading beauty across the world.



‘The Bird on the Path’

By Rose Fulton

Have you ever had an interaction with the natural world that left you happy but slightly stunned? An experience that changes how you see your life, that helps you realise what you want to do with your time on this planet? I have. I knew it before, but now I feel it in the marrow of my bones. Deep inside me, it feels right.

I was on a brisk walk with my mother sometime in late spring when the trees were alive with birdsong and the sky was caked in clouds. That, I think, was when I realised how beautiful the natural world actually is. The moment when it happened was a surprising one. Mum had just got an unexpected phone call and was sitting on a log some way behind, the sound of her conversation almost lost in the cacophony of woodland chatter. I had gone on ahead as there was an interesting fern I wanted to examine. Just before I reached the beautiful fern, a juvenile song thrush tumbled out of its hiding place and onto the path in front of me. It made a kind of throaty whistle and tilted its head as if to say, ‘long time no see!’ . This made me smile. Some built-in, primeval instinct made me repeat the gesture and attempt to recreate the cry that the little *Turdus philomelos* made so effortlessly. My strangled gasp seemed to make it chuckle. I smiled back and we watched each other for a while. As we silently conversed, everything seemed to fall out of my world, except this little bird sitting before me. It was the most peaceful and extraordinary moment that seemed to last forever.

Mum was nearing the end of her call. So, reluctantly, I pulled my gaze away from this adorable marvel of nature to check if mum was off the phone yet. She wasn't. Normally, I would hate to see technology (except maybe a camera) out whilst we were on our morning walk through the trees, but, on this occasion, I was glad. I had been acknowledged by a small part of nature, and that is an extraordinary honour. I turned back to my new friend and, to my astonishment, saw that it was copying me as I had copied it. I looked into the eyes of the ‘Bird on the Path’ and nodded. Once. My movement was mirrored by the inquisitive avian miracle that was now my best friend and inspiration for a career in ethology. Mum had now, without my noticing, started wandering towards us and was saying goodbye to whoever had called. My song thrush had spotted mum's strides towards its territory and decided to take action: retreat. With a sneeze of farewell and shake of its feathers, my little friend was gone. I stood there for a moment, staring at the spot where the little bird had disappeared, then I ran off to recount my mini adventure to mum in all its glory. This accidental connection between girl and bird changed my life.

The next day we walked past the stretch of foliage that my song thrush had appeared from and vanished into. By chance, I looked down at precisely the right moment to see two beetle black eyes blink up at me. Staring back into the sparkling depths of knowledge and innocence, I felt the same feeling of elation from the day before rising up in me again. The briefest of glances was all I got from my avian friend, but it was more than enough to supply me with happiness for a week.



A HOME FOR HEDGEHOGS

By Megan George

You don't have to have carpentry skills to create a simple hedgehog house, in fact all you need are some bricks and a paving slab or a sheet of wood.

I already had a stack of old bricks and a paving slab so I gave them a quick clean off and got to work.



I mapped out the layout on the lawn, making sure to include an extended entrance to keep out predators like foxes and badgers. The entrance should be approximately 15cm wide.

Once I was happy with the design, I rebuilt the house in a quiet, shady spot under my garden hedge. I also added hay inside, but hedgehogs will bring in their own bedding.

With the paving slab roof added, I then stacked a log pile on top as camouflage and as a home for invertebrates, although this part isn't essential.



Cat food can be left out to feed the hedgehogs. Always remember to leave a shallow dish of fresh water.



A simple, strong house that is easy to clean and should last for years, keeping our little friends warm and safe. Now I'm just waiting for some spiky visitors! If you have made your hedgehog house near a garden pond, make sure there is a ramp so that the hedgehogs can climb out if they fall in!



Photograph by Megan George

Please share your creations with us via email at thegreenfusemagazine@gmail.com or via our website gallery at www.thegreenfusemagazine.com

‘Little Jack’

By George Rover

One of the house sparrows who spends time in our garden I have named Jack. I know he is a house sparrow and not a tree sparrow because he has a grey cap, not a brown one. He is named after Captain Jack Sparrow from ‘Pirates of the Caribbean’.

We are lucky to have many birds and other wildlife spend time in our garden, but Jack has stood out to me because he visits the bush and roof just outside my bedroom window throughout the day, coming closer than any of the other birds, and doesn’t seem to mind me any more than I mind him. I have been watching him for a while now and I believe he is the sparrow who nested under the eaves of that single story roof last year.

This made sense because his visits have become more numerous in the last couple of weeks and he has been hopping around on the roof, closely observed by a female house sparrow, seemingly looking for his way in.

But we had some work done on that part of the roof since last Summer, so where they had nested is now gone.

Realising why his behaviour is seeming more urgent now, and with the pressure of his little friend watching him keenly from the bush each time, I felt concerned. He could have found somewhere else to nest but he kept coming back with his lady friend, hopping around on the roof and looking for where they had nested last year (and even possibly the year before that – the lifespan of a house sparrow is approximately three years). I knew I had to make him somewhere to nest, near the place he had nested ast year.

I would make him a bird box.

I did some research to find out exactly how far from the ground it had to be and how large the hole had to be, and found out other things I hadn’t realised I needed to know to make the home just right (did you know that the front of the box on the inside should ideally have a rough surface to help the birds climb up to the hole?).

Since putting the bird box up, I have been watching closely but I have not seen him enter it. I have seen him nearby, and he’s definitely had a look at it, but it seems he hasn’t gone too close yet. After a bit more research, I found out that ideally you want to put up bird boxes in the autumn so the birds can familiarise themselves with them before the spring, when they really need to find a safe spot to build a nest for their family (though you still have time to help, as birds in the tit family will still be looking for a nest site now!). House sparrows also like to nest communally, with other house sparrows, so I will put up a few more bird boxes nearby.

I will keep watching with fingers crossed, and will update you on little Jack’s movements and whether he thinks my attempts at a bird box home are nice enough or indeed not!

Have you made friends with any of your local wildlife? We’d love to read your stories or see some photos or pictures, so do send them to us!

In this issue of The Green Fuse Magazine, you will find some information about bird boxes, including the different requirements for common species of British birds.



Bird Boxes

By George Rover

When I was making a bird box for my sparrow visitor, Jack Sparrow, and his lady friend, I had to do research to find what house sparrows need for their nest boxes.

Here is a table that shows specifications for the bird boxes:

Bird	Nest box hole size	Distance from the ground	Hole distance from floor of the box
Blue Tit Coal Tit Marsh Tit	25mm	2-4m	125mm
Great Tit Tree Sparrow	28mm	2-4m	125mm
House Sparrow Nuthatch	32mm	3+ m	125mm

Additional information:

Weatherproof the roof with a non-chemical wood paint / stain and ensure the roof overlaps the front of the box so as to stop rain reaching the entrance hole. To minimise the risk of rain entering the back of the box, it is worth cutting a groove into the back plate to slot the back edge of the roof into. I would also advise putting a piece of rubber across the joint between the back of the roof and the back piece of plate, to further reduce the risk of rain getting in. Trim the floor panel to fit inside all four walls of the box.

Make sure to rough up the inside of the bird box, under the hole, to allow the young birds to climb up to the hole. When I did this, I used a Dremel power tool to cut ridges in the front. Also make sure to cut some small drainage holes in the base of the bird box to allow for any water that does get in to drain out.

I would also advise you to screw the roof on, rather than nail it, so you can access the inside of the bird box in the winter to clear it out. If possible, it would be a great idea to use a hinge for the roof, which would allow for easy access. If you do use a hinge, make sure to cover the gap between the roof and the back of the bird box. I would suggest using a piece of rubber as your hinge.

Visit the link here for the RSPB guide on how to make a bird box:
[Making and placing a Bird Box – RSPB](#)



Photographs by Cathy Jones

The Weeping Willow

By Libby Greenhill

When autumn comes
She weeps with sorrow.
As all her leaves have left her
All through Winter
She keeps on weeping,
With all the sadness in the world.
The winter seemed the longest.
She carries on weeping,
With a deep sadness inside.
But then a breeze of warmth came,
Carrying spring within.
And the weeping willow turns her weeps
Into cries of bliss,
Her precious leaves are back
And summer soon did come.
The weeping willow was happy again
And wept with joy once more.

Bird Feeder Log

By Megan George

1. First find a log, you can find one or cut one from a fallen branch.
2. Next use a drill to make lots of holes randomly around the log, ask an adult to help with this.
3. Screw one or two eyehole screws in the top of the log and tie some string ready to hang it up.
4. Add a selection of bird-safe foods in the drilled holes to attract a range of birds to your log feeder.

Some ideas of food to add would be:

- Peanut butter (100% peanuts with no additives)
- Peanuts
- Sunflower seeds
- Suet pellets
- Raisins
- Bird seed
- Small amounts of bread crumbs.

There is no real rule as to what you put in your feeder - as long it's bird-safe, add anything you have.

Now hang it up in the garden, sit back and enjoy the birds.



Please share your creations with us via email at thegreenfusemagazine@gmail.com or via our website gallery at www.thegreenfusemagazine.com

Vegetarian Taxidermy!

By George Fulton

If you love being able to display animals but don't really like taxidermy, then this project is for you! You can easily do it at home – all you need is:

- cardboard boxes
- PVA glue
- acrylic paint
- masking tape (not sticky tape)
- loads and loads of newspaper
- card (eg corn flakes box)
- cocktail sticks (optional)
- loo paper (optional).

There's no limit to what you can do with papier-mâché. For example, I've made a giant four-foot-long sturgeon! My sturgeon is in fact only a juvenile – fully grown sturgeon can be up to 33 feet long! Making your 'vegetarian' taxidermy animals life-size is a great way of getting a better sense of what these animals are like in real life.

So for this issue we're going to look at how to make 'vegetarian' taxidermy papier-mâché fish!

Step one: Select your fish!

From the internet, print out photographs of your fish taken from different angles so that you get an idea of what your fish looks like in 3-D.

Find out how large your fish is in real life, so you know what size to make it.

Next, on a piece of paper carefully draw a life-size shape of your fish. For my sturgeon, I used a tape measure to guide me in scaling up my drawing and to make sure its fins were in the right place.



Make sure, when drawing your outline, that you only include the larger and thicker fins – leave out the thinner fins (pectoral fins etc) as you will add these later using card.

Carefully trace your fish outline onto a piece of cardboard and cut it out. If your fish has an open mouth, take care to include this detail on your outline.

Next, trace once around the outline of your first template fish and cut it out so that you have two identical outlines of your fish. For a larger fish like my sturgeon, you may need four or five initial layers, while for a thinner fish like my salmon (pictured above), you may only need to use one middle layer.

Now, carefully draw round one of your first layers, but don't cut it out yet! Just inside the line of this shape (about half a centimetre to a centimetre, depending on the fish and how many layers of cardboard you are going to need to get your fish the correct thickness), draw a smaller fish. Now carefully cut out the shape of the smaller fish (make sure you do not have the fins on this layer, otherwise your fish will end up with extra-thick fins).

Next, repeat the process to make another fish shape the same size to go on the other side.

After this, keep making smaller and smaller fish shapes until you have all the pieces you need ready to assemble your fish to the correct thickness. In the picture below, the tunny's body is more compressed (therefore thinner) than the sturgeon's body.

To make the sturgeon's body shape, I needed to place small pieces of rolled up cardboard in between the layers during the assembly to make it bulkier.

Step two: Assembly!

The assembly process is simple. Start building your fish from the inside out, starting with your first, largest fish shape(s). Take your largest piece(s) (the first ones you cut out that will go in the middle of the fish body) and carefully glue them to the next size down. Keep going until you get to the last, smallest fish shapes you cut out.



Then, take your masking tape and use it to tightly bind your 3-D fish shape (if you have trouble making the pieces stick, you can put masking tape on at earlier stages too).



For the **next step**, bind more masking tape tightly around the body and fins so as to give your evolving fish more integrity and strength. Your fish should look a bit like my tunny:



With wider fish such as the sturgeon, you can insert rolled up cardboard or other packaging between the cardboard layers so as to build up the right thickness and shape. On my sturgeon (below), I also rolled up and stuck some bubble wrap on the sides so as to create the desired shape. At this stage you also attach the smaller fins, for a larger fish these can be made with cardboard and for a smaller fish you can use thinner card like a corn flakes box.



Step Three: Papier-mâché!

For this stage you will need your PVA glue, a big paint brush and a shedload of newspaper. Use something like a tin can or an ice cream tub to put your glue in. To make the right consistency glue, mix one-part PVA to three parts water. Now tear your newspaper into thin strips – this works better if you rip with the grain. It's a good idea to put some newspaper down to protect the surface you're working on.

To start the papier-mâché, brush down one side of your fish with PVA glue and then lie strips of newspaper along it and across it so that they criss-cross, this will strengthen your papier- mâché layer. Brush these strips down with PVA glue on both sides and on the fins. Keep on doing this until your fish has 5 to 10 layers of papier- mâché, depending on how complex your fish is.



If you are making a sturgeon, like I did, then you will have to make sure you that you include the extra adaptations they have, such as barbules and scutes. To make the scutes, cut out a small circle of card with a radial slit from the middle to the edge, then pull the two sides of the slit together to make a cone shape. Use masking tape to attach this to the sturgeon and keeping going until the whole fish is covered. Barbules are more straight-forward. Take a cocktail stick and make it thicker with a few layers of masking tape. To secure it to the fish, put glue on the end, push the pointed end into the fish and papier-mâché it in place. Another of the sturgeon's adaptations is its protrusible mouth, which can give the fish a rather despairing look. To create a protrusible mouth, take some loo paper, put it in a bowl, add some glue and mush it up to make a thick, pastey goo. You can then sculpt the shape of the mouth with this paste. Use more sheets of loo paper to cover the mouth parts you have made and to sculpt them into the correct shape.

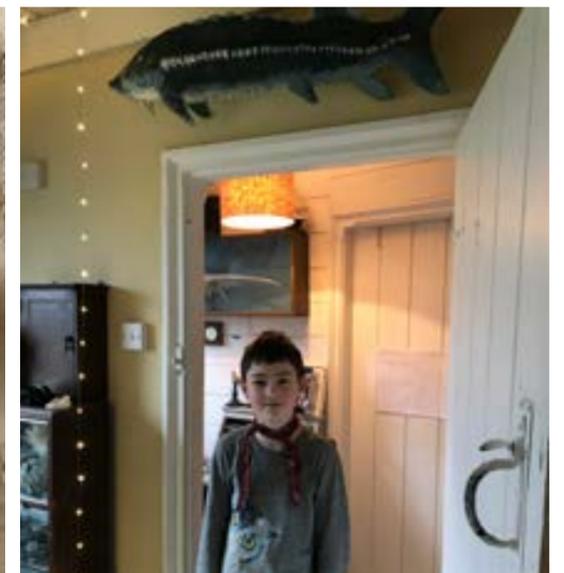
Step Four: Painting!

Once the papier-mâché is dry you can begin painting your acrylic undercoat. Make sure your undercoat is light as it is easier to make a lighter colour dark than a darker colour light!



Next you start adding details such as patterns, colouration and scales. Keep it as true to life as you can, as your papier-mâché fish will look better if it looks like a real fish. In my case, I always make sure my fish are scientifically correct which involves a certain amount of research and fun!

Finally, you can add a 'fin' -ishing touch (!!) by doing a final layer of PVA that dries clear and gives the fish a glazed or wet look!



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Readers' Pages

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These beautiful creations (see above) were made with resources from a local Yorkshire wood, aren't they lovely? This creative lot have made some stunning art filled with glorious colours! Well done to the home-edders from York who took part in making these, you did an incredible job!



Gwen (8) has made these beautiful creatures out of woodland materials, she has made some creatures that I am sure all of us would love to meet. To me, they all look like they have big personalities!

Is it a rock? Is it a tree? No! It is a nightjar!!!

By George Rover

The nightjar, *Caprimulgus europaeus*, is a nocturnal, ground-nesting bird.

Nightjars arrive in the UK from April to May. They nest here during the summer months, often raising two broods of chicks, before leaving around September-time.

Although they sometimes use trees to roost in or sing from, nightjars make their nests in heathland and young conifer forests, directly on the ground, where their wood-like camouflage helps them blend in with the vegetation. This is why we must stay to the paths during the summer months. Nightjar nests are all too often trampled under the feet of humans and animals, so we can help them by staying to the paths and keeping our dogs on leads.

If you are out walking and do come across a nightjar nest, stay away from it and make sure not to touch eggs or young birds because, if you do, the parents may not recognise the nest or chicks as their own. Try your best not to startle the nightjar adult birds because they may flee and abandon their nest and then predators may eat the eggs or chicks.

Amazing fact

The nightjar's Latin name means 'Goatsucker'. This is because some people used to believe nightjars would feed on goat's milk as nightjars were often found close to them. They were actually just eating the insects near the animals!

How to identify a Nightjar:

The nightjar is a medium-sized bird. They have grey-brown plumage much like the colours of a rock or tree bark. When in flight, they have a fan-shaped tail and are similar in shape to a cuckoo or kestrel.

To me, the nightjar's churring song sounds strangely electronic - a mixture between a dolphin call and the sound some insects make.

If you want to see a nightjar, the best time to see them is at dawn and dusk. You will most likely hear them before you see them. Watch the sky above heathlands and you may be lucky to see them displaying or feeding on moths and insects.

My message is... be aware of nightjars!

They need our help and we can, and must, look after them.

THE ANIMAL TRACKS CROSSWORD



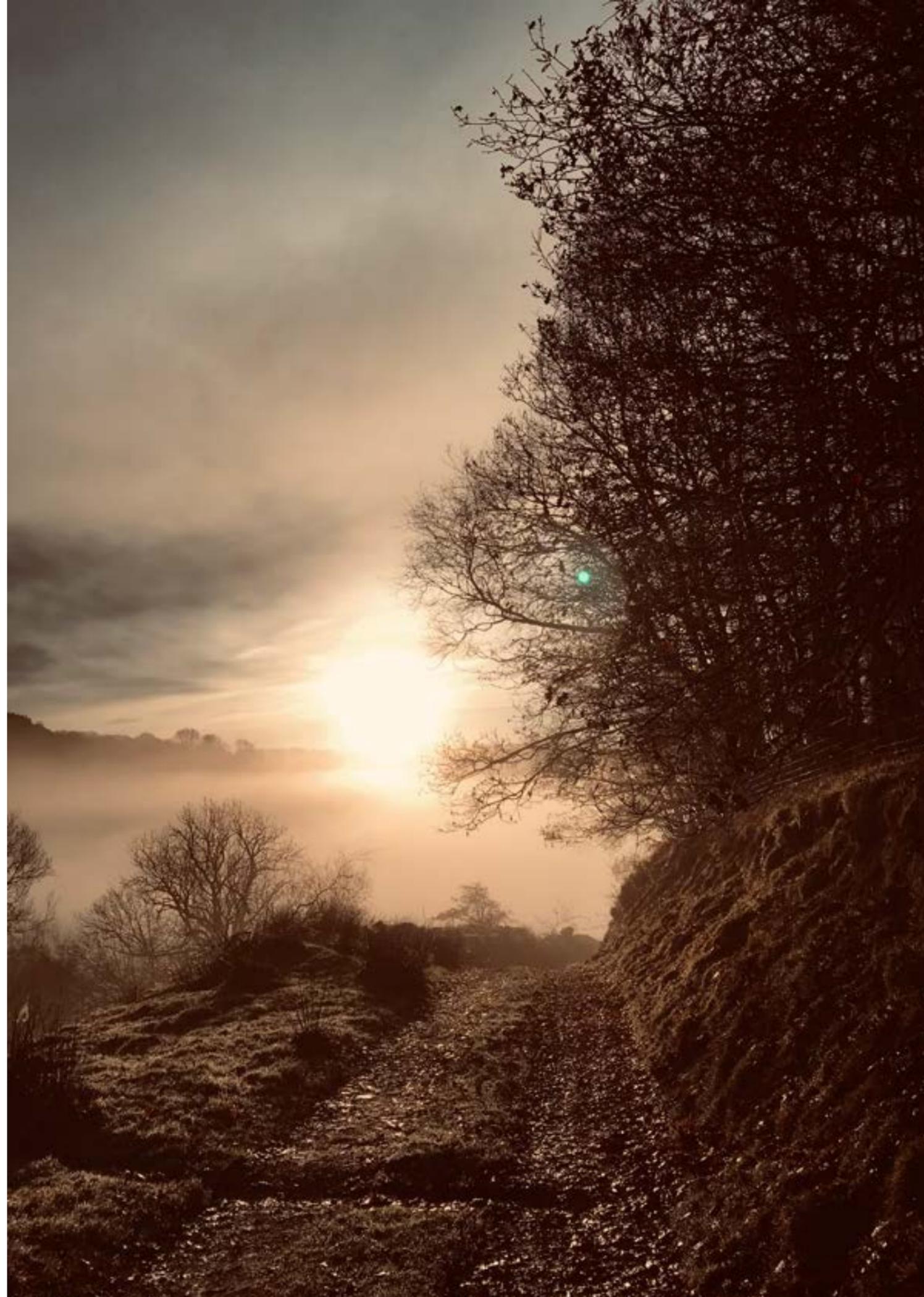
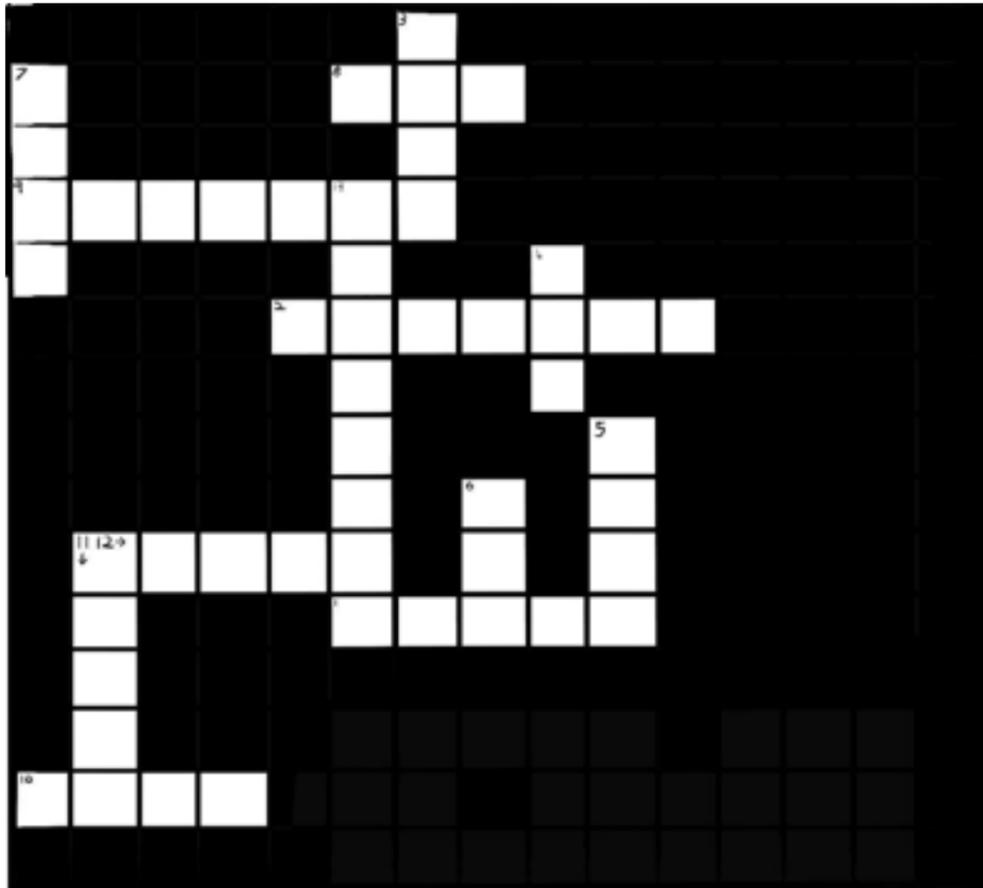
Illustration and puzzle by George Fulton

Across:

- 1. Treig
- 2. Dpæorl
- 8. Gpi
- 9. Khicenc
- 10. Rede
- 12. Nuahm

Down:

- 3. Inol
- 4. Tca
- 5. Areb
- 6. Ogd
- 7. Ckud
- 11. Oserh
- 13. Ehtpelna



The Freshwater Interdisciplinary Research and Engagement Lab (FIRE LAB) at Swansea university are friends of The Green Fuse. Here are some recommendations from the FIRE LAB for you:

Interested in Scientific Research?

Frontiers for Young Minds is a fascinating site that brings the latest scientific discoveries to younger audiences. Young people work with scientists to promote ‘cutting-edge’ science in an accessible way. We invite you to explore the articles available on Frontiers for Young Minds and encourage you to get involved. We thoroughly enjoyed learning about the impact of dams and reservoirs on the local ecosystems reading:

UNDERSTANDING THE DIFFERENCE BETWEEN LAKES AND RESERVOIRS

Penny Beames and Stephanie Renee Januchowski-Hartley

<https://kids.frontiersin.org/article/10.3389/frym.2020.513858>

The FIRE LAB has been working on ‘Jac’s River Adventure’, a story for primary aged children.

The story can be found here:

https://firelabkids.files.wordpress.com/2020/05/jacriveradventure_190520.pdf

The film of Jac’s River Adventure can be found here:

<https://www.youtube.com/watch?v=Et9mXTmsbGs>

A video message from Steph Januchowski-Hartley can be found here:

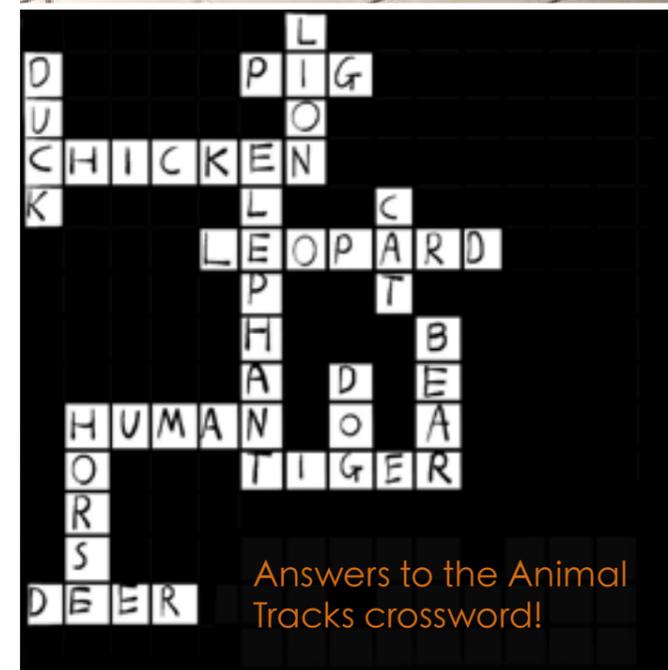
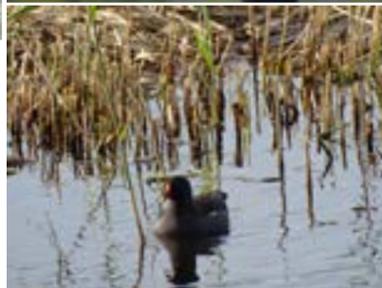
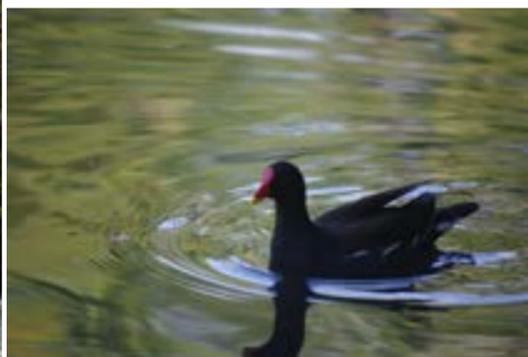
<https://twitter.com/walesdotcom/status/1366350001748594688?s=20>

Steph suggests three things that young children can do to share and learn about their local rivers:

1. You can enjoy Jac’s River Adventure, reading with your family or at school.
2. Lead your own river adventure along a river near you with your family and share the experience with your friends.
3. On your adventure, you can take an extra bag to collect any rubbish you may find along the way.



Photographs by Megan George



Answers to the Animal Tracks crossword!

We challenge you to draw big! Try scaling up a small animal and drawing it super-size or try drawing a big animal life-size! Please share your creations with us at thegreenfusemagazine@gmail.com. Don’t forget to include yourself in the picture for scale!

To find out more about The Green Fuse Magazine please visit :
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