

# nattergalchat

Froglife's newsletter - amphibians, reptiles & nature news  
Issue 22: Spring/Summer 2021



**HABITATS**



TRANSFORMING LANDSCAPES

TRANSFORMING LIVES

TRANSFORMING RESEARCH

## contents

3. From the CEO
4. Home 'Bitter-Sweet' Home
6. Pastures New
7. Bright Young Things
8. Mind, Body & Soul
9. How to Make your own Bird Box
10. Life is a Journey...
11. Giving Wildlife the Green Light: Wildlife Road Mortality Conference
12. A Residence for Reptiles
14. Home is where the Heart is
16. More than a Pinch of Salt: Is the Salinisation of Breeding Pools Negatively Impacting the UK?
18. Stirrings in my Pond
20. Habitat Creation: Timing is Everything
21. The Lay of the Land
22. Tadpoles of Fast-Flowing Streams
24. The Art of Nature
26. London T.O.A.D Tapestry
27. Wildlife Habitats through the Year: A Seasonal Guide
28. Frogalogue

Editor: Jules Robinson; Design by Victoria Larcombe

Photo: Craig Mackay



**GWH**  
Garden Wildlife Health

Garden Wildlife Health (GWH) is a collaborative project between the Zoological Society of London (ZSL), the British Trust for Ornithology (BTO), Froglife and the Royal Society for the Protection of Birds (RSPB), which aims to identify disease and monitor the health of British wildlife.

Visit [www.gardenwildlifehealth.org](http://www.gardenwildlifehealth.org) to find out more

## The Froglife Board

Chair of Trustees: Inez Smith

Vice Chair of Trustees: Prof. Roger Downie

Trustees: Frank Clark, Richard Donoyou, Dr. Phil Wheeler, Gordon MacLellan, Dr. Silviu Petrovan

Patrons: Kate Bradbury, Jules Howard & Mya-Rose Craig

CEO: Kathy Wormald

### contact us

Froglife

1 Loxley, Werrington

Peterborough PE4 5BW

Phone: 01733 602102

Email: [info@froglife.org](mailto:info@froglife.org)

[www.froglife.org](http://www.froglife.org)



froglife



@froglifers



froglifers



+froglife



froglife

Froglife is the campaign title for The Froglife Trust. Registered Charity Number 1093372 (in England & Wales) & SC041854 (in Scotland); Registered Company Number 438714 (in England & Wales). The views expressed in Natterchat are those of the contributors and not necessarily those of Froglife.

To advertise in or to sponsor an edition of *Natterchat* please contact Kathy Wormald at [kathy.wormald@froglife.org](mailto:kathy.wormald@froglife.org).



## Help us to find dragons...

Grab your phone, get your wellies, and go out dragon hunting this spring/summer to help us map amphibians and reptiles.

Our free **Dragon Finder smartphone app** will help you to identify all the different amphibians and reptiles you might spot in the UK. You can also use it to record your sightings, adding to our Living Atlas of where the animals can be found.





'Dear supporters,

This edition of Natterchat is focused on the

importance of ensuring that we have a mosaic of interconnected, high quality, functioning wildlife habitats.

Froglife delivers its work priorities through three programmes: Transforming Landscapes, Transforming Lives and Transforming Research.

Froglife's work on Transforming Landscapes really took off in 2008 with the development of our Living Water Programme which started work in North and South London and quickly expanded to Cambridgeshire, Sheffield, Glasgow, North and South Lanarkshire. Although we have continued with the Living Water Programme and have recently developed a Fife Living Water project, in 2013 we decided to expand the programme to include an extensive volunteer training and public engagement programme. Public engagement has included creating tapestry maps reflecting local wildlife and wildlife sites, Wildlife Gardening Workshops, Virtual and Augmented Reality and sessions in schools. This project titled 'Dragon Finder' operated in London, East of England and Scotland.

The findings of our research in 2016 on the Toads on Roads database concluded that there has been 68% decline in toad populations over a 30 year period which informed our decision to develop a project focusing on the UK's common toads and prioritising

their conservation. The Tails of Amphibian Discovery Programme is enhancing sites with known toad populations, improving these to encourage populations to expand across the area.

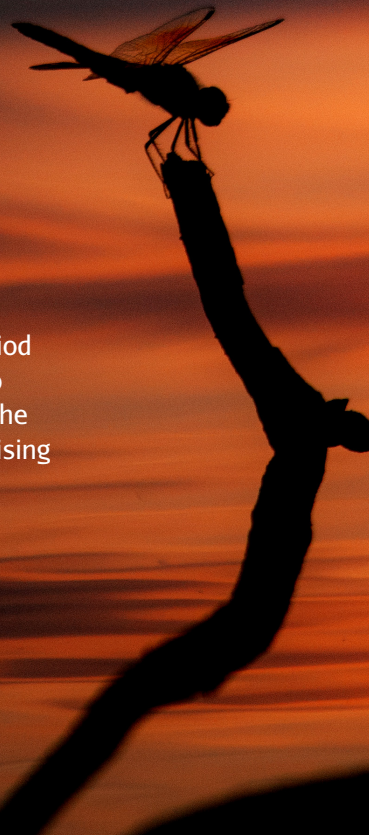
The work that we do through our trading company, Froglife Ecological Services (FES), has further expanded the impact that we are having in Transforming Landscapes. FES has built many outdoor classrooms in school grounds, each one including a wildlife pond and a range of hibernacula and wildlife homes; it has improved company grounds to provide their staff with wildlife gardens to enjoy during lunch breaks and worked with allotment holders, community gardens and councils on improving public spaces for wildlife.

Since 2012 Froglife has improved 2,293 sites for amphibians and reptiles and many other species of wildlife and has enhanced approximately 2,032 hectares. As part of our Conservation Strategy, developed in 2015, we revisit all sites that we have worked on after 1, 3, 5 & 10 years and to date we have undertaken 619 site surveys. We couldn't have achieved any of this without the help of our volunteers. Since 2012 an amazing 5,377 people

have helped us, so a huge thank you to every one of them, and a huge thanks to all of you, our supporters, for your continued help.

By supporting us you are helping us to carry on Transforming Landscapes, Transforming Research and Transforming Lives...

Kathy Wormald, CEO



# HOME 'BITTER.

by Kathy Wormald & Prof. Roger Downie

Habitat loss is the biggest threat to frogs, toads, and wildlife in general around the world and with climate chaos high on the agenda it is a 'hot' topic in more ways than one. There are three different types of habitat loss: habitat destruction, habitat fragmentation, and habitat degradation.

**Habitat destruction** is the process by which a natural habitat becomes incapable of supporting the native species it is supposed to support which results in reduced biodiversity and species abundance (Calizza et al., 2017) and is currently ranked as the primary cause of species extinction worldwide (Pimm & Raven, 2000). Human activity such as harvesting natural resources for industrial production and urbanisation are the main causes of habitat destruction. These include activities such as clearing habitat for agriculture, mining, logging, trawling and urbanisation. Most recently it has been recognised that the world's food system will also need to be transformed to prevent habitat loss around the globe. David Williams from Leeds University, commenting on a recent paper (Williams et al., 2020) said "We estimated how agricultural expansion to feed an increasingly wealthy global population is likely to affect about

*20,000 species of mammals, birds, and amphibians. Nearly 1,300 species are likely to lose at least a quarter of their remaining habitat, and hundreds could lose at least half. This makes them far more likely to go extinct."*

Habitat loss can be preceded by initial habitat fragmentation. **Habitat fragmentation** is when larger species rich habitats are broken up into smaller pieces of land. This often is as a result of new developments such as housing estates that divide habitats with new infrastructure such as roads and other services.

When habitats are destroyed their carrying capacity for indigenous plants, animals and other organisms is reduced resulting in population declines, sometimes to the level of extinction. Habitat loss is perhaps the greatest threat to organisms and biodiversity. Most amphibian species are threatened by native habitat loss (Beebee & Griffiths, 2005). Some species are now only breeding in modified habitats (Borzée & Jang, 2015). Many amphibian species have very specific requirements for their survival that can only be found within a certain ecosystem. Habitat destruction also reduces the range for certain organism with amphibians and reptiles being particularly susceptible due to their inability to travel great distances. Many are endemic to their region and are not found anywhere else within the

world, and thus have less chance of recovering.

Tropical rainforests have reduced from the original worldwide estimation of 16 million square kilometers (km<sup>2</sup>) to less than 9 million km<sup>2</sup> today (Primack, 2006). The current rate of deforestation is 160,000 km<sup>2</sup> per year, which equates to a loss of approximately 1% of original forest habitat each year (Laurence, 1999). Other forest ecosystems have also suffered either comparable or more destruction as rainforests. Human activities such as deforestation for farming and logging have severely disturbed temperate broadleaf forests. Tropical deciduous dry forests are easier to clear and burn making them more suitable for agriculture and cattle ranching.

Human activity has also resulted in desertification. **Desertification** is the process of land turning into desert as the quality of the soil declines over time. The main cause of desertification is population growth, resulting in urban sprawl, over-grazing leaving the soil exposed to erosion and areas being cleared of trees.

The UK has not escaped the destruction of habitats. *The State of Nature 2019* report (Hayhow et al., 2019) gives an overview of how the UK's wildlife is faring, looking back over 50 years of monitoring to see how nature has changed. Having

# -SWEET' HOME?

## An introduction to Habitat Loss

assessed the pressures that are acting upon nature, the reports key findings showed a significant decline of 13% in average abundance of 696 terrestrial and freshwater species since 1970. Of the 8,431 species that have been assessed using the IUCN Regional Red List criteria, and for which sufficient data were available, 1,188 (15%) are currently threatened with extinction from Great Britain and 2% are already extinct. The pressures that have caused the loss of biodiversity over recent decades continue to have a negative effect. *The State of Nature 2019* report highlights agricultural management, climate change, hydrological change, urbanisation, pollution, woodland management and invasive non-native species as among the most significant of pressures acting upon terrestrial and freshwater wildlife.

Speaking at a meeting of the world's leaders hosted by France, the UN and the World Bank (the 'One Planet Summit') in January 2021, UK Prime Minister Boris Johnson said "The problem is we're destroying species and habitat at an absolutely unconscionable rate... That's why the UK has pledged to protect 30 per cent of our land surface and 30 per cent of our marine surface." He also confirmed that the UK would spend £3bn on solutions to restore the climate and nature over the next five years. He spoke of the

Covid pandemic originating as a "collision between man and nature" as scientists also believe that it is humanity's destruction of habitat that creates the conditions for new viruses and enables the spread of diseases like Ebola and COVID etc., with animal to human transmitted diseases.

The pandemic has certainly increased people's appreciation of the natural environment and has also highlighted the inequality between wealthier and poorer communities' access to high quality, natural spaces. There is a large movement calling for a Green Recovery; part of this includes the launch of the Government's £40 million Green Recovery Challenge Fund, that will create jobs in nature recovery and conservation (some of which Froglife has been successful in applying for, to fund our new Yorkshire T.O.A.D initiative). We also have a huge opportunity through the 26th UN Climate Change Conference (COP 26), which will be hosted under the presidency of the United Kingdom in Glasgow in November 2021. The NGO sector and others will be actively engaging in the agenda and will be calling for the halt to the loss of the world's biodiversity. Hopefully all of this will help to halt habitat fragmentation, habitat destruction and species extinctions on our doorsteps and help us to think about curbing our own 'habits' that effect

species worldwide.

### References

- Beebee, T.J.C. & Griffiths, R.A. (2005). The amphibian decline crisis: a watershed for conservation biology? *Biological Conservation* 125, 271-285.
- Borzee, A. & Jang, Y. (2015). Description of a seminatural habitat of the endangered Suween treefrog *Hyla suweonensis*. *Animal Cells and Systems* 19, 216-220.
- Calizza, E. et al. (2017). Effect of habitat degradation on competition, carrying capacity, and species assemblage stability. *Ecology and Evolution* 7, 5784-5796.
- Hayhow, D.B. et al. (2019). The state of nature 2019. *The State of Nature Partnership*. Published online.
- Laurence, W.F. (1999). Reflections on the tropical deforestation crisis. *Biological Conservation* 91, 109-111.
- Pimm, S.L. & Raven, P. (2000). Biodiversity: extinction by numbers. *Nature* 403, 843-845.
- Primack, R.B. (2006). *Essentials of Conservation Biology*, 4th edition. Sinauer Associates, Sunderland, Massachusetts, USA
- Williams, D. et al. (2020). Proactive conservation to prevent habitat losses to agricultural expansion. *Nature Sustainability* doi.org/10.1038/s41893-020-00656-5

# Pastures New

**Froglife has been expanding its own range with new staff in new roles, reaching new audiences:**

"I'm Vicky, I joined Froglife mid November 2020 and lead the 'Leaping Forward for Dementia' project in London, funded by the City Bridge Trust.



Our aim is to empower People Living with Dementia, and their support network to safely access the benefits of the outdoors, whilst improving habitat for wildlife. In the coming months we'll be leaping across Lambeth with workshops on Streatham Common, local Care Homes and Community Green Spaces.

Our leap provides four distinct offerings that will be intertwined and recorded in a series of Nature Journals:

- Practical Wildlife Gardening sessions - productive gardening and habitat creation from creating small ponds to growing edibles.
- Creative Wildlife Gardening sessions - something a little less strenuous; using nature to inspire art, crafts and games, bringing the outdoors in where needed.
- Nature Skills Workshops - 10 week courses to create or learn about topics in a little more depth; to likely include Nature Photography and Woodworking.
- Empowering support networks giving confidence and inspiration to family, friends and care workers, and spreading awareness of Dementia to the wider community.

Whilst Covid restrictions have hampered hopes of Christmas get-togethers I have managed to begin exploring Lambeth, led by the T.O.A.D Nature Trails! I've also delivered a Winter Craft Package and Christmas Memories Bingo game to a Specialist Care Unit. They have a great garden which we'll be helping them transform into a more wildlife friendly space in 2021!"



"Hi, I'm Chloë Dalglish. I joined Froglife in October 2020, having previously worked for Earthwatch Europe and I'm leading the new 'Sussex

Green Pathways' project. Green Pathways is a funded scheme that helps vulnerable and disadvantaged young people across East and West Sussex to take part in positive activities linked to wildlife and conservation in their local area. We are excited to be funded by the National Lottery Community Fund to deliver sessions during 2020-2021.

Sussex Green Pathways aims to provide a space where young people can gain confidence, social skills and knowledge of the environment and

conservation, and help to shape the activities they cover. We encourage our young people to learn new practical skills related to nature conservation in order to achieve positive outcomes for wildlife. Sessions will include a range of practical habitat work, for example pond building, building bug hotels, learning how to identify wildlife, and creative and wellbeing focused activities.

Sussex Green Pathways is expanding the range of Froglife's Green Pathways projects, and will use knowledge gained from already

established projects in Peterborough and Glasgow, with staff sharing skills and ideas to build local partnerships and provide an exciting programme of activities for young people."





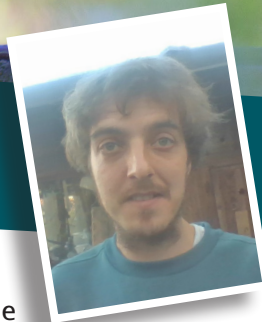
# BRIGHT YOUNG THINGS

We're delighted to announce that **Mya-Rose**, otherwise known as 'Bird Girl' has become one of Froglife's Patrons. Mya-Rose Craig has been publicly sharing her passion for birds, wildlife and nature for the majority of her 18 years, but what may not be so well documented is her love of amphibians.

"I am hugely excited to become a Patron of Froglife and look forward to us working together to create more opportunities to help encourage children and teenagers from minority ethnic backgrounds to connect with the natural world," said Mya-Rose.

Another youngster to join Froglife in a voluntary but supportive capacity is 18 year old **Xavier Mahele**, initially a volunteer for our London T.O.A.D project, who has also written Croaking Science articles for us. He is currently receiving mentoring to become one of our trustees and will take part in our next AGM in December 2021.





# Mind, body & soul

**Zak Mather-Gratton, Froglife's Somerset Green Pathways for Life Project Officer, says creating homes for wildlife is a win-win for wellbeing!**

There are so many ways we can help wildlife, and so many reasons to do it. It's a sad fact that many of our native species are under pressure, and making places for them to live in our gardens and our communities is a great way to lend a helping hand. This then brings us closer to nature - both by creating more opportunities for us to see wildlife close to home, and also by putting us in their shoes, encouraging us to really think about how we could improve our surroundings for our animal neighbours. This has the additional bonus of improving our own wellbeing. Time spent in nature has recognised health benefits, both physical, and importantly providing a mental boost through feeling connected with the natural world. Research is increasingly pointing to specific benefits for people living with dementia.

And so, we have projects around the UK encouraging just that, enabling people with the condition to get actively involved in nature conservation, and to learn more about their local wildlife. These projects all share aims of improving wellbeing and helping wildlife - two broad aims which interlink and support one other - helping wildlife improves wellbeing through growing confidence, satisfaction and empowerment, which then enables more work to be done!

Building bird boxes, insect hotels, birdfeeders and ponds are just a few examples of the more hands on activities our groups get stuck into - and all of them are firm favourites. With a little planning, and most importantly encouragement in a supportive atmosphere, it's amazing what we can achieve. In Glasgow, our Project Officer Louise, working with care home residents, found that sharing out the tasks and providing choices regarding levels of engagement, enabled everyone to get

involved. For example some residents would take it in turns to cut the wooden pieces, and any residents not able to physically use a saw would be able to work on sanding or doing the finishing touches.

One participant of this group was very wary of trying to use the saw during our session making a bird box and was worried that she would cut herself. After some encouragement and assurance that she could stop at any point if she wanted to and with the provision of a glove for the hand holding the wood on the work table, she took up the saw and cut a piece for the bird box. "Oh I don't think I can do that..." changed to, "I'll have another go!"

By creating safe opportunities to do activities that might ordinarily be deemed too difficult or dangerous, we disrupt risk aversion and build confidence, as well as homes for wildlife.

*"Thank you so much. I've never seen my residents do that [build bird boxes] EVER. Your encouragement is what's getting them to do this and take part." David Byres, Activities Coordinator.*

*"The photos of people sawing bird houses, nobody in their own environment would have allowed them to do that and they wouldn't have had the confidence to start a project like that. They're really proud of what they do with you, the bird houses and things like that." Amanda, Practice Team Leader, Alzheimer Scotland*

# How to make your own bird box



## Materials:

1. A plank of untreated wood approximately 150mm wide, 15mm thick and about 1.4m long
2. Saw
3. Pencil
4. Tape measure
5. Set square
6. Hammer and nails
7. Work bench or table
8. Drill
9. Jigsaw

*Step 1: Measure and saw all your pieces except the base*

The back panel should be approximately 450mm long, this gives an overlap at the top and bottom to allow space to attach the box to a wall. The sides should be 250mm at their back edge, and 200mm along their front edge, and the front piece should be 200mm long. Use a drill or a jigsaw to make a hole, the diameter depends on which birds you want to accommodate: 25 mm for blue, coal and marsh tits, 28 mm for great tits, tree sparrows and pied flycatchers, 32 mm for house sparrows and 45 mm for starlings.

*Step 2: Start assembling the box*

The best place to start is fitting the sides onto the back piece, using the hammer and nails. Once you have done this, you can check the measurements of the base piece and make it the right size. The sides should enclose the base piece to prevent water seeping into the bottom of the box.

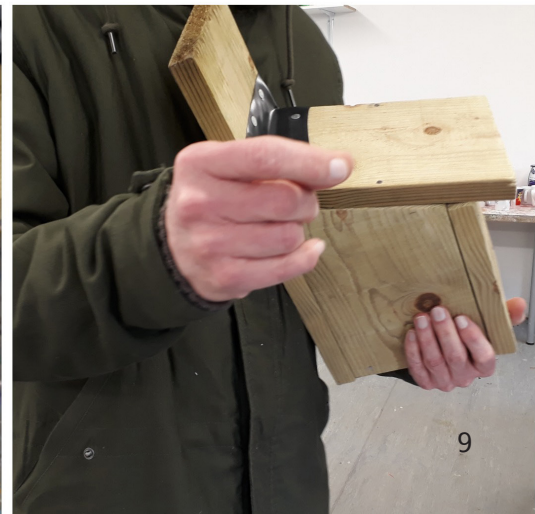
*Step 3: Cut and fit the base piece and attach the front*

After measuring the gap it needs to go in, cut out the base piece. Slide it into place and attach it. Then attach the front of the box. Do the

same for the roof - it should run flush to the back of the box, and overlap the front and sides slightly to prevent water getting in.

*Step 4: Attach the roof*

Attach the roof using screws which will enable it to be removed in the future when you clean and check the box. You could also use a piece of bicycle inner tube or old roofing felt to make a waterproof hinge.





# Life is a Journey...



by Ashlea Mawby,  
Communications Officer

**Every year, toads move from one habitat to another and then back again.**

From as early as January to as late as April, beneath logs and leaf piles, compost heaps and even our garden sheds, toads begin to stir, awakening from their winter sleep. They have been resting in these habitats since October and now they are driven by nothing else other than the need to travel back to the ponds in which they were born and create the next generation.

They begin their journeys on mild, wet evenings and walk the hazardous route across woodlands, fields and roads to reach their destination. Some male toads will 'piggy back' on the very large females so they can

be the one to fertilise her eggs when they reach the safety of the water.

Female toads can lay as many as 1,500 eggs in long strings wrapped around vegetation and within 2-4 weeks, tadpoles emerge. Once mating is complete for another year, female and male toads will return almost instantly to their woodland and garden habitats to continue to feed and ready themselves for another winter. The young toadlets will emerge from their ponds during the summer months (June-August) en masse and will disperse to the surrounding habitats that have supported their own parents.

Unfortunately, toads have declined by 68% in the last 30 years, and one of the main causes of this is road deaths. Froglife tackles this problem with the **Toads on Roads** project. This is a

volunteer-led project that has been running for over 30 years and registers toad migratory crossings with the Department of Transport. Toad patrols then patrol these crossings during the spring migration and transport the determined toads across roads to safety.

In the last 5 years alone, toad patrols across the country have rescued over 420,000 toads from almost certain death. The passion and determination of toad patrol volunteers is what makes the Toads on Roads project possible and saves thousands of amphibian lives each year.

For more information on Toads on Roads visit: [www.froglife.org/toads-on-roads](http://www.froglife.org/toads-on-roads)



# Giving Wildlife the Green Light

## ROAD WILDLIFE MORTALITY CONFERENCE

10<sup>th</sup> March 2021

Following analysis of our four year survey showing that mitigation tunnels provide valuable corridors between terrestrial and aquatic habitat for amphibians, Froglife launched a Wildlife Tunnel Campaign in 2020 for all amphibians, reptiles and small mammals. We've been steadily gathering signatures ever since, to ensure that wildlife tunnels become a standard part of every new development that would otherwise fragment habitats and cause wildlife road mortality.

To continue to ensure that this issue is kept high on the agenda and that people are aware of how serious this matter is, Froglife are hosting a **Wildlife Road Mortality Webinar** on 10<sup>th</sup> March 2021 and have invited international speakers to show how wildlife road mortality affects other

wildlife and what else can be done to reverse this form of species decline. Speakers will present from both UK perspectives (covering reptiles, hedgehogs and other mammals) and international findings (India and Canada) as they share their research on road mortality in their respective regions, of creatures large and small.

The conference, which begins at 1pm with a twenty minute welcome and opening address from Froglife CEO, Kathy Wormald, will be followed by Debobroto Sircar, speaking from the Indian Wildlife Trust on the work of Roadwatch, India. Later Sean Boyle will be sharing his studies on mammals and amphibians in Ontario and in between we have UK speakers from Project Splatter, Froglife (on

reptiles and road mortality) and Hugh Warwick from the Hedgehog Preservation Society will be speaking on Hedgehog Mortality on UK Roads.

Kathy Wormald, CEO, Froglife said. "By discussing and sharing our research and initiatives we hope to show decision-makers that we need to work with nature, not against it. We need to give wildlife the green light."

**Attendance is FREE and this is the link to book yourself a ticket and to find out more:**

[www.froglife.org/webinars](http://www.froglife.org/webinars)



Sign our wildlife tunnel campaign here [www.froglife.org/2020/03/02/wildlife-tunnel-campaign/](http://www.froglife.org/2020/03/02/wildlife-tunnel-campaign/)



# A Residence for Reptiles



*Discovering Reptiles is Froglife's new National Lottery Heritage funded project, focusing on inspiring people about our native reptiles and increasing public engagement through Froglife's free Dragon Finder App. We also work with landowners and park management staff to enhance the knowledge and understanding of reptiles as well as provide training on effective habitat management.*

**Ben Harris, Froglife's Discovering Reptiles Project Officer, shares his tips on how to create living spaces for reptiles in and around where you live:**

Reptiles need to use their habitat for the key aspects of their lives: thermoregulation (the ability to keep their body temperatures within certain boundaries, even when the surrounding temperature is very different), feeding, overwintering, and in the case of grass snakes,

to lay their eggs. Although most reptiles are not often encountered in gardens, there are still a number of things you can do to increase your chances of attracting them:

You can create a compost heap out of green household and garden waste



in an unshaded area of your garden, but close to natural cover like long grass or a hedgerow. Keep adding to your compost heap year-round, as the bigger it is the better. This is a perfect area for slow-worms as the natural heat created from the composting material helps them thermoregulate during the summer, as well as providing an area for them to overwinter in. If you are lucky, grass snakes will also be attracted to your compost heap to lay their eggs.



Creating a wildlife pond will not only add value for reptiles such as the grass snake, but many other species as well, such as frogs and newts. You can find advice on how to build your own pond by visiting [www.froglife.org/info-advice/just-add-water](http://www.froglife.org/info-advice/just-add-water)

Constructing piles of logs and stones throughout your garden, preferably in areas of sunlight, will give reptiles places to bask and hide. Allowing grass to grow and encouraging wildflowers around these areas is also beneficial. Long areas of grass will provide habitat for invertebrates, which slow-worms and common lizards will prey on.



You could also construct a hibernaculum, an area for reptiles and amphibians to overwinter in. Choose a small area that is south-facing and does not flood, and dig a shallow hole. Fill the hole with logs, brush or old bricks and then cover with soil. This provides a protected area for reptiles to reside, without disturbance.



You will mostly spot reptiles when they are basking out in the open sun, so on warm days keep any eye on the open areas of your garden. However slow-worms aren't as fond of basking as other reptiles in order to thermoregulate. They are mostly thigmothermic, meaning they take heat from warm items in their environment. You are more likely to find them underneath things than out in the open.

Most reptiles tend not to move around much, so you will often repeatedly find them at the same spots until they have settled down for winter at their overwintering sites between October and March where they will stay until they are ready to emerge in the Spring. So keep your eyes peeled from now on!



# HOME IS WHERE THE HEART IS



Chloë Dalglish, Froglife's Development and Learning Officer for our new Green Pathways Sussex project, has developed a helpful 'how to' pull-out guide

for attracting amphibians and reptiles in your area all year round...

## When & Where

Both Reptiles and amphibians gather their heat from the external environment which impacts on their

habitat choices throughout the year. During hibernation in colder **winter** months they will spend that time in habitat that is sheltered from wind, rain and snow, but come the warmer weather in **spring** they will emerge and use many different areas for hunting, shelter and

## PONDS

*Who for?* UK reptiles and amphibians

*Why?* Vital for amphibians to breed, support insect life, provide water for many animals

*How?* Dig a garden pond with a variety of depths and native plants, or create a mini-pond using a container (see our Just Add Water guide [www.froglife.org/info-advice/just-add-water](http://www.froglife.org/info-advice/just-add-water) or download our Wildlife Pond Visualiser App <https://bit.ly/3jcvz8b>)



## LOG PILES

*Who for?* UK reptiles and amphibians

*Why?* Provide damp, sheltered environments, and boost invertebrate numbers (food for amphibians and reptiles)

*More info* In a border, shady corner or area of longer grass pile up branches and logs. You may need to cut them depending on how large you would like your log pile. Leave the logs to rot and watch wildlife thrive.



## NO-MOW AREAS

*Who for?* UK reptiles and amphibians

*Why?* Longer grass provides a more diverse structure, increasing shelter and hunting opportunities

*More info* Leave an area of lawn to grow long. Choose an area that could link suitable habitats (e.g. your pond and hedgerow). Seed with wildflower mix for more diversity or wait and see what grows. Implement a much reduced, seasonal cutting regime to promote floral diversity.





absorbing heat. Heathland, sand dunes, grassland and woodland edge habitats are vital when it comes to our UK reptiles and amphibians, and this includes those messy 'forgotten about' areas in gardens, these can be an absolute haven too!

## Connectivity is key

Connectivity is key for much of our UK wildlife, and your garden, connected to other gardens, is a vital stepping stone in a complex mosaic of different habitat types. It's also important to think about how to link small isolated populations of reptiles together using wildlife corridors. Whilst reptiles generally

prefer diverse vegetation structure, with areas to shelter from danger from predators or adverse weather, and open areas to bask and absorb the heat from the sun and ground, amphibians need to stay moist.

This permeability means that they can breathe through their skin underwater, which is vital as some overwinter at the bottom of ponds. In spring amphibians migrate to ponds (they can travel around a kilometre) which are vital for successful breeding, and this is where mating takes place. Spawn is laid and the young develop here in relative safety before starting their life on land. They may still frequent

ponds occasionally but will spend a substantial amount of the year in damp terrestrial habitats with a variety of features such as decaying logs, underneath hedgerows and in longer grassy areas, before starting the breeding cycle again in spring.

Frogs, toads and newts on allotment sites can also be useful in providing a free pest control service which can reduce your pesticide use. Below are some handy tips on different types of habitat you can create in your outdoor space to support amphibians and reptiles throughout their lifecycles, as well as helping other wildlife too.

## COMPOST HEAPS

*Who for?* UK reptiles and amphibians

*Why?* Provide damp, sheltered environments that are warm and good for hibernation, and house a huge variety of insects to forage. Grass snakes may lay eggs here.

*More info* Open or slatted sided compost heaps allow wildlife to access freely, place in a sheltered area of the garden and be aware when 'turning' your compost that reptiles and amphibians may be in residence.



## HIBERNACULA

*Who for?* UK reptiles and amphibians

*Why?* Provide shelter, a place to hunt, and an area to hibernate

*More info* Place in an area that won't flood, and isn't always in direct sunlight. Use deadwood, logs, bricks, rocks etc. to create a varied pile with lots of nooks and crannies, and small holes lower down for creatures to gain entry. Cover with wildflower seeded soil or turf.



## ROCKERIES

*Who for?* UK reptiles and amphibians

*Why?* Provide shelter, and an area to bask

*More info* South facing rockeries may attract reptiles such as common lizards. Create piles of rocks near ponds or longer grassy areas. Incorporate bare soil into your rockery for extra basking areas.

Other ideas, depending on the scale of the project, could include grass snake egg laying heaps, brush piles and networks of ponds and boggy areas called bog gardens. Look on the Froglife website to find out more!



# MORE THAN A PINCH OF SALT

## Is Salinisation of Breeding Pools negatively Impacting UK Amphibians?



**John Howieson, Centre for Environmental Research, University of the West of Scotland/Froglife discusses the known effects of salt exposure on amphibians and his current research project in the UK.**

Freshwater habitats are extremely diverse. They comprise 0.8% of the Earth's surface and only 0.01% of global water, yet they contain one third of all described vertebrate species (Dudgeon et al., 2006). However freshwater biota is threatened by increased salinity caused by climate change induced sea level rise, as well as saline road de-icers and pollution from agricultural/industrial processes (e.g. wastewater effluent, mining, intensive irrigation).

Laboratory exposures have demonstrated toxicity of salt exposure to amphibians. Observed effects include mortality of eggs

and juveniles, malformations, decreased size in both larval and adult life stages and delayed time to metamorphosis (reviewed in: Hopkins and Brodie, 2015). Some of these effects have also been observed in two UK native species, common toads (*Bufo bufo*) and natterjack toads (*Epidalea calamita*). Common toad tadpoles exposed to high salinity levels displayed abnormal gill development and damage, leading to reduced survival (Bernabò et al., 2013) and although natterjack toads inhabit coastal areas, similarly to common toads, exposure of tadpoles to high salinity caused mortality, as well as reduced size/delayed metamorphosis in survivors (Gomez-Mestre and Tejedo, 2003).

Interestingly, there are a few amphibian species with exceptionally high tolerance to saline environments, such as the crab-eating frog (*Fejervarya cancrivora*), a South East Asian species typically

found inhabiting mangrove swamps and marshes, and the rough-skinned newt (*Taricha granulosa*), which have been found in tidal streams in North America. In other less-specialised species, there is evidence that local amphibian populations can adapt to higher salinity levels. For example, natterjack toad populations have been found to tolerate differing sensitivity to salt pollution depending on salinity in their natal environment (Spain: Gomez-Mestre and Tejedo, 2003, 2004). Within the UK, there are a few isolated reports of amphibians inhabiting saline environments. For example, in the 1930's and 1940's smooth newts (*Lissotriton vulgaris*) were observed laying eggs in brackish water, and more recently (2019) common toad tadpoles were



observed in rockpools on the Isle of Gigha (Scotland). This suggests that certain amphibian populations may be able to tolerate relatively high salinity levels. However, neither the distribution of amphibians in saline environments nor local adaptation of specific populations have been investigated in the UK.

#### References

Bernabò, I. et al. (2013) 'Effects of salinity stress on *Bufo balearicus* and *Bufo bufo* tadpoles: Tolerance, morphological gill alterations and Na<sup>+</sup>/K<sup>+</sup>-ATPase localization', *Aquatic*

*Toxicology*, 132-133 (October 2017), pp. 119-133. doi: 10.1016/j.aquatox.2013.01.019.

Dudgeon, D. et al. (2006) 'Freshwater biodiversity: importance, threats, status and conservation challenges', *Biological Reviews*, 81(2), pp. 163-182. doi: 10.1017/S1464793105006950.

Gomez-Mestre, I. and Tejedo, M. (2003) 'Local adaptation of an anuran amphibian to osmotically stressful environments', *Evolution*, 57(8), pp. 1889-1899. doi: 10.1111/j.0014-3820.2003.tb00596.x.

Gomez-Mestre, I. and Tejedo, M. (2004) 'Contrasting patterns of quantitative and neutral genetic variation in locally adapted populations of the natterjack toad, *Bufo calamita*', *Evolution*, 58(10), pp. 2343-2352. doi: 10.1111/j.0014-3820.2004.tb01608.x.

Hopkins, G. R. and Brodie, E. D. (2015) 'Occurrence of Amphibians in Saline Habitats: A Review and Evolutionary Perspective', *Herpetological Monographs*, 29(1), pp. 1-27. doi: 10.1655/herpmonographs-d-14-00006.

## Do you live near the coast and/or have a breeding pond?

We have started a project recording the distribution of UK amphibians in coastal habitats and investigating underlying salinity tolerance in locally adapted populations. In order to carry out this work, we are looking for amphibian breeding pools located in coastal areas as well as inland breeding pools to allow comparisons between populations inhabiting pools with differing salinity levels. If you know of a pond, located either in private property (e.g. a garden) or on public land, we would love to hear from you.

Please contact:

[John.Howieson@froglife.org](mailto:John.Howieson@froglife.org)

We look forward to feeding back the results in a future edition of Natterchat.



# STIRRINGS IN MY POND



**Froglife Patron, Kate Bradbury shares some personal 'pond observations' from the 'spring' chapter of her forthcoming book, which is full of promise and hope for the season ahead.**

"Spring is the most magical time. Suddenly, after months of cold, rain, frost and ice, the garden comes alive. And it all starts with little stirrings in my pond.

The frogs are always the first to get the party started. They hibernate beneath compost heaps, in log piles or buried into the mud at the bottom of ponds. They emerge from hibernation when temperatures hit around 5°C - typically after rain - and head straight to their breeding



grounds. In the British Isles frogs start spawning in the south west first, with spawnings moving across the country in a north-easterly direction. In a mild winter, Cornish frogs may have spawned by Christmas Day but they usually start a couple of weeks later. After Cornwall and Devon, frogs spawn in south Wales and Hampshire, spawning in Brighton, where I live, in the second week of February, ahead of the Midlands, the north and finally Scotland as late as April. I follow the action on Twitter, everyone excitedly exclaiming 'the frogs are back!'. It's a joyous time of year.

From the middle of February I creep into the garden each morning to

see if I can spot signs of frogs in the water or on their way to it. I also check my allotment pond and the ponds of various parks around the city - which will be the first that frogs spawn in? When will I see the first blob? My usual running route, which takes me along Brighton seafront, is abandoned for the parks, allotments and community gardens of Brighton and Hove. It covers about six miles and takes in nine ponds. Nine ponds that gradually, over that beautiful transition from winter to spring, fill up with masses of horny amphibians.

Some years we have a dry spring and the first rain of the season brings all the frogs out at the same time. This is my favourite type of spring. Ponds boil with ripples and croaks, as hundreds - sometimes thousands - of frogs arrive at once for a giant mating party that lasts just a few days. I watch 'mating balls' of up to 10 frogs all rolling around together. In wet springs activity is more subdued, with frogs arriving gradually, over the course of a few weeks. Either way, ponds across the city eventually fill up with masses of frogspawn and I wait, again, for the first tadpoles to hatch.

We still get frosts in February, sometimes hard ones, and the frogspawn is frozen in the water. Sometimes you'll get a few blobs of spawn before the frost and the bulk of the spawning done afterwards;

other times I've seen entire ponds packed with frozen frogspawn. Most of it survives, frogs are hardy things.

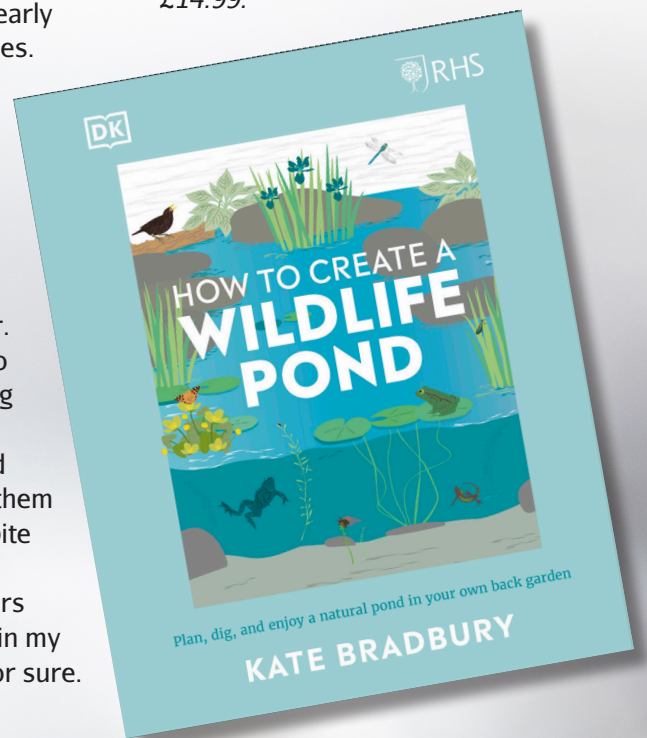
Toads start spawning a couple of weeks after frogs. I watch them, too, sitting in the dark listening to their squeaks and water ripples. Newts tend to spawn a few weeks after frogs and toads. I've only caught this twice - newt courtship takes place on the pond bottom, far below the preying eyes of excited wildlife gardeners.

By the end of March ponds are full of wriggling masses of tadpoles, with newts arriving in the water to fatten up on them before their own breeding season begins. Nearly everything eats frog tadpoles.

People often tell me there are too many tadpoles in their pond and they want to move them, or they're scared there will be 'too many frogs' when it's time for them to emerge in summer. This never happens, far too many other species eat frog tadpoles, from newts and backswimmers to birds and dragonfly larvae. Some of them eat toad tadpoles too, despite them being slightly toxic. There's a few backswimmers that will have tummy ache in my pond every spring, that's for sure.

Elsewhere in the pond invertebrates like pond skaters and backswimmers are emerging and breeding, while dragonfly and damselfly nymphs crawl up emergent plant stems to finally metamorphose into an adult. By the end of spring, ponds are lush and full, a world away from the icy, cold pool they started the season with. I love this transformation. I basically live for it."

*This extract is a sneak preview, especially for Froglife supporters, taken from Kate Bradburys new book 'RHS How to Create a Wildlife Pond' which is being published by Dorling Kindersley in April 2021 and is priced £14.99.*



# Habitat Creation *timing is everything*

by James Stead, Project Manager, Come Forth for Wildlife



One of the major elements of Froglife's work across the UK is creating and restoring habitats to enhance and benefit the species to which the charity is dedicated - namely our native amphibian and reptile species. Every wildlife-friendly feature created is a key benefit to these species but to ensure the effectiveness of works on a landscape scale, planning and design is required to avoid negative effects.

Timing is vitally important but when do we decide to create or to restore ponds, or work towards enhancing reptile habitat? Technically, creating ponds can be done at any time of the year but this does depend on their surrounding habitat if you are creating large scale ponds with machinery. Whilst dry conditions in spring and summer would suggest this to be the best time of year to access a location with machinery, it is also the most likely time of year that adult and juvenile amphibians / reptiles would be present in a variety of natural habitats - along with other forms of wildlife. Therefore many pond creation projects take place in the autumn or winter when wildlife is less active and will, as a result, be less disturbed. Trying to find drier spells of weather in these seasons can be a challenge, as having large machinery stuck in muddy, wet conditions is something to avoid!

Reptiles call a wide variety of terrestrial habitats home and they often benefit from the creation of basking zones and shorter areas of vegetation near long sections of vegetation for cover. To create these conditions, cutting back habitat



Top: new pond at The Helix, Falkirk, full of rainwater  
Bottom: restoring a large pond at Balloch Castle Country Park



Top: newly created pond with dipping platform at Bannockburn High School, Stirling  
Bottom: creating a new pond at Hallglen Policy Bing, Falkirk

outside of our reptile species' active season (spring to early autumn) is key, so accidental harm and disturbance is avoided. The only exclusion to this is bracken (a fern commonly found in woodland and heathland habitats) which can only be cut in the summer months so making any remedial action a cautious one.

The definition of a pond is a permanent or seasonal waterbody between 1 square metre and 2 hectares in surface area which holds water for four or more months of the year. In essence, ponds come in all shapes and sizes! What is always important to remember are gently sloping edges creating easy access for wildlife (and people) and

implementing irregular outlines to form a natural pond shape. It is far better to create several small and medium sized ponds with different depths and shapes than one large pond - the pond 'network' we look to create caters for numerous species of animals and plants and offers a new home to flora or fauna in need should one pond fall into an unfavourable condition.

Some of these examples can be seen during our autumn and winter's pond creation and restoration projects, delivered by Froglife's Come Forth for Wildlife project in Scotland, funded by the National Lottery Heritage Fund.

Fourteen ponds of a variety of sizes

ranging from 3m x 3m to 12m x 15m were created in Callander and Bannockburn High School in Stirling, at The Helix and Hallglen in Falkirk and at Balloch Castle Country Park. Six ponds were also restored across some of these sites, and within the Raploch area of Stirling. All these pond creations and restorations will expand amphibian populations by offering natural freshwater habitats vital for their breeding success.

If you are looking for more pond creation tips, check out the Come Forth for Wildlife project's Wildlife Pond Visualiser app for Android devices - search 'Froglife' on the Google Play Store and download for free!



## The Lay of the Land

**Kathy Wormald,**  
**Director**  
**of Froglife**  
**Ecological**

### **Services (FES) reports on its vital work:**

What started out at the beginning of 2020 as a promising year for FES, rapidly turned into a very worrying situation. We had lots of training courses booked to start late March and also a healthy habitat work schedule. However, as we all know, 2020 hasn't quite panned out to be the year we had expected. Instead, all of our training courses were cancelled and our contract schedule put on hold. Having said this, after coming out of lock-down, FES has recovered remarkably well.

We have scheduled additional training courses for 2021, which has enabled those who missed out on the training in 2020 to rebook and we will be running several courses in London, Peterborough, York and Glasgow, most of which are already full - our trainers will certainly be very busy! We also jumped back into work delivering habitat works

at several sites, and we are pleased to be able to say that we have 50+ contracts on our contract schedule running into 2021!

This is important to the Froglife Trust because all of the profits generated by FES are gift-aided to the charity, providing the trust with much needed unrestricted funding. This funding supports our core functions, such as finance, human resources and management functions. It also provides us with funds to develop new areas of work for Froglife.

For London T.O.A.D FES has been involved in a variety of Landscape-scale works at 7 London sites including Ham Common Woods, Lee Valley Waterworks, Epping Forest (restoration of a Cow Pond at Leyton Flats), Lesnes Abbey woods, Foots Cray Meadows, Trent park and Ruskin park as well as Ealing sites (5), Brentham Meadows, Churchfields pond, Cuckoo park and Freyant Park.

To find out more about FES please visit:

[www.froglife.org/Froglife-ecologicalservices/about-fes/](http://www.froglife.org/Froglife-ecologicalservices/about-fes/)



# TADPOLES OF fast-flowing STREAMS



**Professor Roger Downie has taught at the University of Glasgow since 1970 and is Vice-Chairman of the Froglife Trustees.**

It is hard to imagine a less likely habitat for amphibians than the fast-flowing streams that emerge from the Himalayan glaciers in India and Nepal. However, frogs of the genus *Amolops* have evolved features that allow them to thrive in this harsh world. There are over 50 species of *Amolops* distributed across the mountainous regions of southeast Asia, and they share a characteristic: their tadpoles are 'gastromyzophorous' (i.e. they possess an abdominal sucker which

allows them to attach tightly to rock surfaces).

I have not been to the Himalayas, so my involvement with *Amolops* is one of those happy accidents that occur in science. An ex-student, Kevin Conway, who now works on the evolution and diversity of fishes, based at Texas A and M University, collected a substantial sample of tadpoles as by-catch while fishing in two Nepalese streams. Knowing my interest in tadpole diversity, he sent me some of them in 2009. I used them in my teaching, but also for an undergraduate research project, carried out by Liam Atherton, who went on to work for Froglife for a time. Liam did some nice

scanning electron microscopy on the tadpoles' suckers and mouthparts, and we wondered about writing up the results for publication. However, more work was needed and this brought in two more collaborators, Mohsen Nokhbatolfoghahai, an Iranian microscopist, and Michael Jowers, a molecular phylogeneticist, both of whom earlier did their PhDs with me. Our paper describing the tadpoles has recently appeared in the journal *Salamandra*: as well as including details on the sucker and mouthparts, we describe larval development and the relationships of our samples to other Nepalese



species. As it happens, another paper has just come out describing a new *Amolops* species from the area, and there is good evidence that our tadpoles belong to that species, *Amolops mahabharatensis*.

*Amolops* eggs are laid within a sticky mass of jelly on rocks at the margins of streams. The larvae remain in the jelly after hatching, until their suckers are developed enough for them to set off over the rocks, using their mouthparts to rasp off the algal film as food. Suckers are good for holding on to a surface, but not so good at allowing movement over the surface. An unusual aspect of *Amolops* adhesion is that the tadpoles can slide over the rocks whilst remaining attached. This feature was first studied by Sunder Lal Hora in the 1930s. Hora was remarkable as a native of India under the British Raj, who developed a distinguished scientific career before independence. His ability was noticed by Nelson Annandale, Scottish founder of the Zoological Survey of

India (ZSI), who appointed him as a researcher. Hora went on to take a University of Edinburgh PhD and to be elected as a Fellow of the Royal Society of Edinburgh; he rose to be Director of the ZSI in 1947. Hora's main work was on fishes, but he also published on amphibians and reptiles.

Hora's observations suggested that the opening of the tadpole's mouth advanced the anterior end and temporarily loosened the force of suction, allowing the sucker to be slid forwards. Our examination of the link between the sucker and the mouthparts shows how this is possible. The sucker's border is a high rim surrounding a wide flat floor, back and sides. But at the front end, the sucker borders on to the mouthparts. It is this junction, lacking the rim, that allows the sucker's seal to be broken, so that the tadpole can move forwards. The lips of the mouthparts are wide and flat, providing sliding adhesion. We noticed that the anterior lip bears a row of tiny teeth, unusual in this

structure, which we think provides grip as the lip moves forwards.

These tadpoles spend most of their time stuck to rocks, but they do detach in order to change position, or to avoid predators, and their powerful tail muscles allow rapid movement in the currents. Adult *Amolops* have adhesive toe-pads, like those of tree frogs, but use them to maintain position on slippery rocks, rather than on leaves. Their ecology is little known, and their conservation status is poorly established. Of the 47 species assessed by IUCN, only 20 are classed as Least Concern, and 12 are Data Deficient. An expedition to Nepal, anyone?

#### Reference

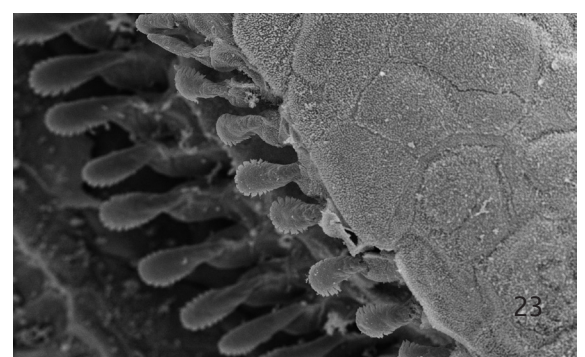
Nokhbatolfoghahai, M. et al. 2020. Larval description and developmental staging of *Amolops* tadpoles from Nepal, including ultrastructure of the oral disc and sucker. *Salamandra* 56: 317-328.



Above: Low magnification scanning electron micrograph of the lower surface of an *Amolops* tadpole. To the left, mouthparts showing surrounding lips, central beak and toothrows. To the right, sucker with raised rim and flat central area with crevices and patches of rough-surfaced cells.

Below: High resolution scanning electron micrograph of *Amolops* tooth rows.

Credit: Mohsen Nokhbatolfoghahai





# THE ART OF NATURE

*There are many ways of exploring habitats as artists...*

**By Gordon Maclellan, Froglife Trustee and Founder 'Creeping Toad'.**

The ponds I knew in my childhood were rarely found in rich habitats. There was a gloomy hollow in a wood where frogs mingled with sticklebacks in a tangled soup of twigs, branches and dead leaves. Another, bigger, pool had grown in a crescent where the edge of a bulldozed pile of soil from a housing estate had blocked a ditch. Later, there was a flooded quarry where bluebells grew in the oak and thorn woods that hid the pool from prying eyes. That was special: deep, cold water, still and reflecting the towering walls of the quarry and a home for the biggest colony of toads for miles. It didn't matter where 'my' ponds were. In themselves they always seemed treasures to me.

I love ponds...and woods, and marshes and rocky outcrops...I'm a

fairly indiscriminate appreciator of habitats. I'm also a storyteller and an artist and landscapes tell me stories. I see adventures in shapes, maps in animal paths and secrets in the gaps between branches. I listen to the sound of the wind in the treetops, in the grass, in the rushes of a pond margin. I'm also a zoologist and like to find out, or know, or decide for myself names, connections and the patterns of a place. Where do the toads go when they leave the pond? Where do they come from in the spring? Which trees do the crows favour? When I sit for long enough and I'm quiet enough by the habitat pile, I might watch a wood-mouse forage or wait long enough for a hare to not notice me as it lollops casually past.

All those perspectives help when I work with groups to encourage them to explore habitats for themselves. Together, we think, look, deduce, find out and speculate wildly. There is a creativity here that isn't about painting landscape pictures or sculpting beautiful animal forms. Art in these projects is about confidence and freedom and being prepared to dive in and have a go...and hopefully discover something about ourselves, about the places where we are working and the connections between the two.

There is also respect. Creating, or discovering, the stories of a place and its inhabitants might seem very anthropomorphic but it is also a way of understanding and appreciating the ecology of a habitat. Without turning animals into lots of little humans, the restless hunger of a foraging weasel or the blind determination of a toad heading for its breeding pools or the endless curiosity of crows who just have to know what is going on all resonate with visitors.

All of that creativity feeds ideas that can move in unexpected directions. My public work as an artist often revolves around creating 'animated trails' - wandering performances that draw visitors deeper and deeper into



the enchantment of a landscape. In 2020, giant tree puppets danced slowly through the woods of Buxton whispering their fears for ash trees. There have been river celebrations, with groups singing songs and poems to trout fry released into those rivers after being hatched and raised in school. In woods there are also the toadstools that grow in the leaf mould. There, we find that some are cheerful little souls, watching the world around them with enthusiasm and some regret "I would love to go for a walk through the

forest, through the tall forest,... if only I could" while others are as grumpy a cluster of dripping fungi as you would ever meet:-

*"I don't like that!*

*And I don't like this!*

*And I don't like much at all!*

*So I will sit here, poisonous,*

*Sprouting in the leaf mould.*

*And sulk."*

Frivolous as they might seem, there are deeper intentions in these sorts

of events. They are invitations to visitors to stop and look, to think a bit more deeply, to realise that there is always more around us than we see or hear or know of. There are lives here, stories and adventures that owe nothing to us, that unfold in their own worlds and ways. If we can just settle down and give a place time we might find our own versions of those stories. For me that is an act of creativity as rich as a painting or a sculpture carved in stone.

## Ash Tree Project with Stone and Water, Buxton 2020

*"We are the trees  
Who dread the wind.*

*We are the trees,  
Where the spores settle,  
Where the fungus spreads,  
Where the fingers wither,  
Where the bark splits,  
Where branches break.*

*We are the trees holding onto hope  
In seeds and seedlings,  
In long breaths held and  
Hearts clenched against the dread.*

*We are the trees who  
Grow the keys of hope."*

## Our river: Coates Lane Primary School, Barnoldswick

*"You can rest by this river where the  
kingfishers perch on branches  
And graceful white swans  
swim,  
Sliding over silent,  
glimmering waters  
Reflecting lights,  
Glittering like glistening jewels  
Jagged gems and golden stones  
Shining under the river's mirror,  
As the river races on  
Towards the exciting, flowing waterfalls."*







# WILDLIFE HABITATS THROUGH THE YEAR

## *a seasonal guide*

Froglife's corporate sponsors CJ Wildlife give their expert advice on some of the visitors that you can attract to your gardens, other than amphibians and reptiles.

Regardless of the time of year, our wildlife will make the best use possible of natural resources to create a safe place to take refuge, hibernate or raise their young. Unfortunately, with increased urbanisation and a decrease in suitable habitats, our wildlife really needs a helping hand. Spring is a key time of year and a breeding season for many species, especially our garden birds. Everyone is aware of the springtime joy of new wildlife and seeing birds flit to and from their nests, but there is a lot you can do to keep all garden wildlife safe and warm, as well as providing for the next generation.

**Birds:** Birds are quite specific on their choice of nest site with the entrance opening being a determining factor. A 28mm entrance hole is most useful for smaller members of the tit family, whereas 32mm will suit Great Tits, Pied Flycatchers, Sparrows and Nuthatch to name a few. There are also birds that prefer an open or semi-open nest box such as the Robin, Wren and Blackbird. Position your nest box between 1.5m and 5.5m high and avoiding prevailing winds and strong sunlight. Open nest boxes require more cover so site near to climbing plants where they can be partially obscured. A nest box is beneficial all year round as they provide valuable shelter during colder periods. Birds like to 'check them out' first to become accustomed to them and ensure they are suitable as a nest so no need to wait until breeding season to get one!

**Mammals:** Squirrels will have rested throughout winter ready for March young, but they also breed again in summer. A natural squirrel nest is called a 'drey', usually built in trees from twigs, leaves and grass. However, a great way to support the endangered red squirrels and provide a protective home for juveniles is with a manmade wooden Squirrel House.

Hedgehogs need shelter all year round both for their summer young and a secure place to

hibernate during the winter months. Natural garden shelter is usually in the form of leaf and log piles or undergrowth, but these can be fraught with danger from both predators and enthusiastic gardening. A hedgehog house is much more robust and can range from simple baskets to wooden houses with protective entrance tunnels. Position in a quiet part of the garden and camouflage with garden leaf litter.

**UK bats** do not make nests but look for 'roosts' in which to breed or overwinter using structures that are already available. They need different roosting conditions at different times of the year. For several weeks in summer, female bats gather in a maternity roost to have their young. In winter, bats use hibernation roosts when they go into states of torpor. Some bats prefer hollow trees, others like caves and some shelter in building roof spaces. You can support bats with a bat box, sited high up with a clear flight path, to suit different species of bat that you may have in your locality.

**Insects:** By adding insect houses to your garden, you provide a variety of microhabitats that can further increase the number and variety of species present from bugs and beetles, solitary bees to butterflies and moths. The houses should be placed in a sheltered location ideally along an obvious feature such as a hedge or wall.

CJ Wildlife are proud to be working in partnership with Froglife. Visit our website [www.birdfood.co.uk](http://www.birdfood.co.uk) to find out more and as a Froglife supporter you can also save 10% when using discount code UKFROG18 for your order.

**WIN!** Although we didn't mention amphibians and reptiles above, we have a Toad and Frog House to give away as well as one of our smart frog ramps for those with deep ponds and no shallow edges to enable them to climb out. All you have to do is answer which type of nest box a Robin prefers to breed in - then email your answer in the subject line to [info@froglife.org](mailto:info@froglife.org) and we'll contact the winner. Closing date Monday 5<sup>th</sup> April 2021.



# frogalogue

To order visit [www.froglife.org/shop](http://www.froglife.org/shop)  
or call 01733 602102

'SPRING' INTO ACTION! THIS 'HABITATS' EDITION WHY NOT BRUSH UP FURTHER ON YOUR KNOWLEDGE WITH A 'FIELD STUDIES COUNCIL GUIDE TO PLANTS FROM WETLAND HABITATS' OR CONSIDER SOME HANDS-ON 'HABITAT MANAGEMENT' BY BECOMING A 'RESERVE WARDEN FOR DAY'?

BOTH ARE AVAILABLE TO PURCHASE FROM OUR ONLINE SHOP

[WWW.FROGLIFE.ORG/SHOP](http://WWW.FROGLIFE.ORG/SHOP)



SUPPORT  
FROGLIFE'S  
CONSERVATION  
WORK BY  
SPONSORING  
ONE OF OUR  
SPECIES,  
FROM £10.00



## FROGLIFE IS SUPPORTED BY

Alpkit Foundation ~ Angus Environmental Trust ~ Aviva Crowdfunder ~ BBC Children in Need ~ Biodiversity Challenge Fund ~ BLB Bequest Fund ~ Cambridgeshire Community Fund ~ Chapman Charitable Trust ~ City Bridge Trust ~ City Building Trust ~ Clackmannshire and Stirling Environment Trust ~ EB Scotland Limited ~ Enover Community Trust ~ Ernest Kleinwort Charitable Trust ~ Esmee Fairbairn Foundation ~ Falkirk Council ~ Fenland District Council ~ Garfield Weston Foundation ~ Greener City Fund Community Grant Scheme ~ Grow Back Greener City Fund ~ Heathrow Community Fund ~ Hencoq Law ~ Hillingdon Community Fund ~ Hugh Fraser Foundation ~ John Spedan Lewis Foundation ~ London Catalyst ~ Martin Gibson Charitable Trust ~ Natural England ~ NatureScot ~ Postcode Local Trust ~ SESI ~ Somerset County Council ~ South West Environmental Action Trust ~ St James Place ~ Tesco's Bags ~ The Craignish Trust ~ The Environment Agency ~ The Gibson Charitable Trust ~ The Hospital Saturday Fund ~ The National Lottery Community Fund ~ The National Lottery Green Recovery Challenge fund ~ The National Lottery Heritage Fund ~ The Robertson Trust ~ Value Nature Ltd ~ Veolia Environmental Trust ~ W G Edwards ~ Waitrose Community Matters ~ Western Riverside Environmental Fund ~ Wil-liam Dean Trust

## CORPORATE SUPPORTERS

Big Domain ~ CJ Wildlife ~ Environmenjob.co.uk ~ Evergreen Insurance ~ HolidayCottages.co.uk ~ Stay In Cornwall ~ Waterside Nursery ~ Puddleplants

## TRUSTEES

Inez Smith (Chair) ~ Roger Downie (Vice-Chair) ~ Frank Clark ~ Richard Donoyou ~ Gordon MacLellan ~ Silviu Petrovan ~ Philip Wheeler

## VOLUNTEERS

And finally, but certainly not least, a big thank you to all of our volunteers especially all those toad patrollers who did such a terrific job again this year.

You could also purchase a 'Froglife Friendship' for someone you know who cares about all amphibians and reptiles. Your contribution will be going towards their conservation and your friend or family member will also receive a special pack. Friendships start from £18.00.



If you'd like to give a toad an indoor home, Froglife have collaborated with renowned street artist and wildlife-enthusiast, ATM, to create a one-off limited edition print run inspired by the London T.O.A.D mural in Ruskin Park, Lambeth. The 68 Toad prints, represent the percentage decline of common toad species in the UK over the past 30 plus years and your purchase will be helping Froglife continue to protect common toads and their habitats in the years to come.



Visit our Froglife Shop [www.froglife.org/shop](http://www.froglife.org/shop) for more information on the above and other ways of supporting the charity.