natterchat

Froglife's newsletter - amphibians, reptiles & nature news
autumn/winter 2016

the surveying issue

How healthy is your wildlife? The Garden Wildlife Health team want to know

Photo: Silviu Petrovan

Plus... Hampton Nature Reserve butterfly walk : On the trail of a Dragon Day : Book Review

contents

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This year looks very promising for Froglife, we have lots of interesting ideas in various stages of fruition, so do keep an eye on our website for exciting developments www.froglife.org.

This edition of the newsletter is focusing on the value of species surveying and monitoring and the amazing impact that citizen science has on wildlife conservation efforts. As our Conservation Coordinator, Dr Silviu Petrovan, says in his article, dedicated members of the public have been augmenting our knowledge of the natural world for hundreds of years. Froglife like all other wildlife conservation organisations rely on these individuals to provide us with valuable data whether it is data on toads crossing roads or amphibian mortality, it all brings enormous value to our work. So please do continue to submit your data to us.

This month we are also launching our re-developed App, please do download your records to the new App, it can be downloaded at http://www.froglife.org/dragonfinder/app/. Please note that the previous App has been withdrawn and you will need to download the new version.

We have launched a crowd funding appeal for the stunning Boardwalks Local Nature Reserve based in Peterborough. Froglife took on the conservation management of the reserve in 2015 and we are keen to get people onto the reserve so that they too can enjoy its natural beauty and the wide range of wildlife species that can be found on this city centre site. Please do support our appeal by visiting http://www.crowdfunder.co.uk/hoppy-families

We are hosting an event on 5th February 2015 to celebrate the completion of the Mapestry. This lovely piece of artwork consists of twelve panels compiled by community groups and represents the heritage items along the River Nene. The Mapestry is now going off on a tour of the region. We would like to thank Lillian Taylor, Fabric Artist for all her help in creating this beautiful piece of work.

I hope that everyone has a terrific 2016 and that it proves to be a particularly good year for our amphibian and reptile species. Please do remember there are lots of ways you can help Froglife conserve amphibians and reptiles including volunteering, contributing data to our App, helping toads across roads, creating wildlife habitats, supporting our crowd funding appeal or contributing financially to our projects. It all helps and is very much appreciated, for more ideas visit our website www.froglife.org.

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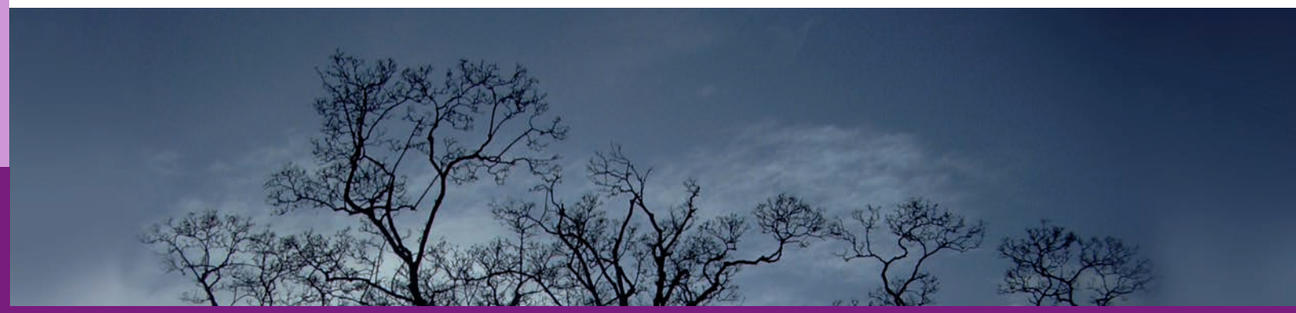
K. Wormald



Could you be a Dragon Finder? *Try out our app quiz!*

See if Froglife's Dragon Finder app can help you identify which of our native amphibian and reptile species these features belong to.

Our recently updated app allows you to identify species using a simple key and quickly submit your sightings. Your important sightings will contribute to national species records. Find out how you did by checking the answers on the back page.

Help us find dragons...

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

The **new version** of 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.

GET IT ON Google Play

Download on the App Store

Photo: Dave Kilbey

Counting for a reason

by Jenny Leon

Ask a young person if they would like to take part in "species surveys to collect biological record data" and you might not get many takers but put a different spin on it and suddenly it's a great way to spark an interest in wildlife.

The thrill of creeping up to a survey tin (a sheet of corrugated iron or a carpet tile which warms up in the sun), breath held, camera poised, gloves on, ready to lift it to uncover what creature might lie beneath. A cluster of minibeasts, a newt curled up, or the potential of something altogether more exotic; a common lizard, grass snake or possibly even an adder. These animals are of course not really that exotic and are found across much of the UK but for many people they consider them something more likely to be found on holiday than in their own back garden.

Surveying is an opportunity to get kids up close and personal with our amphibians and reptiles whilst collecting valuable data on where the species are found. It has been proven that children who have taken part in a 'field trip' whether it be to a local nature reserve or in their school grounds are better able to recall and articulate what they have learnt. Surveying can teach young people about species identification, what animals they might find in different habitats, scientific techniques and much more.

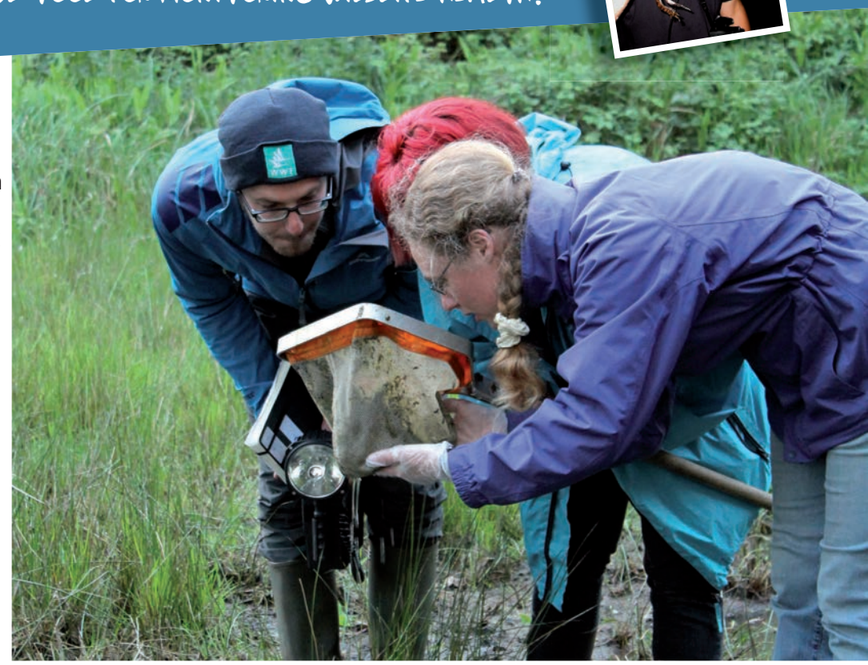
It is important that where surveys are being run with young people they are designed to work both for educational and conservation purposes. While we want to give kids a memorable, first hand encounter we need to be mindful that these are wild animals who will be frightened by the sudden appearance of a group of children. We therefore keep the level of disturbance to an absolute minimum.

It was ordinary people voluntarily reporting to the Frog Mortality project (now part of Garden Wildlife Health), who gathered data showing that common frog populations, particularly in the SE of England, have been strongly impacted by ranavirus (81% declines at sites where Ranavirus was causing repeat mortality events). Small scale surveys like this can add up to help us understand more about our natural environment, and for school kids let's face it getting outside to learn about data collection beats sitting in a classroom any day.

If you want to get young people out to survey amphibians and reptiles you can do so by taking part in one of our projects such as Green Pathways or Leapfrog Schools, or using our Dragon Finder App to record sightings in your local area. Many school grounds have wild areas and, if you're lucky, a pond which make great refuges for our species. If your school doesn't have a pond or it is in a bad state of repair we can help create or restore one through our leapfrog schools project. For more information please see http://bit.ly/LeapfrogSchools

Citizen Scientists

IS CITIZEN SCIENCE A USEFUL TOOL FOR MONITORING WILDLIFE HEALTH?



by Dr Silviu Petrovan

Dedicated members of the public, now commonly referred to as citizen scientists and ranging from experts to beginners, have been augmenting our knowledge of the natural world for hundreds of years and they collect a great variety of biological data, typically species records but also specific events such as plants in flower or arrival of migratory birds. Together with comparatively low costs and increased awareness, the potential to cover vast areas of land over a long period of time and including on private land, which is otherwise difficult to access, makes the inclusion of citizen science in biological monitoring extremely attractive. Consequently, there has been a proliferation of such initiatives recently, taking advantage of technological developments such as smartphone apps, phone cameras and rapid data transmission.

However, creating a functional and successful framework for citizen science data collection is not straightforward and recruiting and maintaining motivation for high numbers of volunteers can be equally challenging. This is even more the case when dealing with somewhat "unappealing" aspects of biology such as wildlife mortality or disease. However, disease monitoring is crucially important for wildlife conservation, particularly for newly introduced pathological agents such as the salamander chytrid fungus *Batrachochytrium salamandrivorans*.

In this context, a new publication co-authored by researchers at the Institute of Zoology and Froglife is aiming to evaluate and detail the potential for citizen science for wildlife disease surveillance, including reviewing of the benefits for the scientists, for participating volunteers and for wildlife conservation alike. In addition, this publication reviews the logistical and financial implications (citizen science projects are not free and need money to run!) as well as the constraints and limitations of such projects, hopefully making a clear case for a judicious and informed usage of such projects in the future. There are huge opportunities for the development of existing and new citizen science schemes in relation to wildlife health monitoring and we hope that at least some of them will continue to focus on amphibians and reptiles.

Froglife and the Institute of Zoology in London have used citizen science in the form of reports from members of the public since the 1990s, in order to understand, identify and discuss the presence of a new amphibian disease, called ranavirosis, that was only emerging and was impacting strongly common frog populations in large parts of England. The virus had most likely been brought to the UK and mainland Europe by the pet trade with fish or the trade with aquatic ornamental plants. Given that the data was collected in private garden ponds it is very likely that without the help from citizen science it would have remained hidden for much longer. The Frog Mortality project has now been continued with the Garden Wildlife Health project and is aiming to continue to use both opportunistic and standardised garden surveys to monitor the health of wildlife species, not just amphibians but also reptiles, mammals such as hedgehogs and birds. If you haven't yet participated in this project, this is your chance to record incidents in your local wildlife heaven, the urban garden, and in this way become a citizen scientist and contribute to a much greater understanding of biological questions and help the conservation of these wildlife species.

Further reading:

Lawson B, Petrovan SO, Cunningham AA (2015) Citizen Science and Wildlife Disease Surveillance. Ecohealth, DOI: 10.1007/s10393-015-1054-z

what a mission!

by Rebecca Neal

I am ready to quietly poison the next person that says "children's book" to me.

It was a couple of years ago that I had a conversation with a friend about the lack of reading material for the younger human, involving native wildlife. The end of that tale was very positive, and Froglife now have a beautifully illustrated story written on paper, that can be purchased for the reasonable price of £6.95 from our shop (www.froglife.org/shop). Perhaps a bit in hindsight, I then agreed to do a review of other writing and pictures combined in a handy reusable mobile thing with pages.

I needed a list, and then some actual objects to peruse. Oh how easy it sounds! I started by asking a few outdoorsy parent-friends for their darling's current obsession, then requested childhood favourites from members of staff that could still remember that far back. I searched for hours on a popular online purveyor of tomes, investigated other conservation organisation's shops and looked on specialist wildlife paraphernalia websites (this one is quite good: www.nhbs.com and you can try CJ Wildlife). I found a lot of fact but not much fiction, sadly, as predicted, but at least I had a list. The next and, so I thought, easiest part, was to find them at the library.

Now it's been a while since I was inside a library as funding cuts mean inconvenient opening hours, but I had faith. Staff were very friendly and the we-can-now-employ-less people technology was high-tech. Unfortunately, the library search computer wasn't. I think there could actually have been a BBC Micro "off of" the 80's behind the not-really-flat screen and possibly-only-15-year-old keyboard. It was painfully slow, crashed, and seemed desperate to tell me that the low-brow literature I was so eager to borrow could be found several miles away. The list of potential printed tales for kids, was getting smaller. But there was a list. Onward; to the shelves!

Aah! So it's not enough to know the creative writing for the age-challenged, existed in this building, you also needed to know who wrote it, as even these basic yarns are categorised by their author. Fair enough, that makes sense. Back to the world's slowest computer. More pain, a coffee, and a quick detour to the relationship guidance section, then back to the shelves. Only to discover that, yes, there might be labels on the shelves, but the people using them a) are quite short and b) *can't read*, and so what you actually have is a jumble of approximately 3621 items somewhere in which might or might not be your target (depending on whether a small child had moved it to the true-crime section whilst "helping".) There is also a secret shelf for one author all of her own, not under "D" for Donaldson but on the other side of the room filed under "why would you ever look here?" "Because she has written so many" said the library assistant.

The pile, in the end, was very small.

Here is what I found. Please share with us via facebook.com/froglife or @froglifers any other recommendations you have as I think we need to let authors and publishers out there know we are a spending force and we want more!

'The Lorax' by Dr Seuss

Not even about native wildlife but a brilliant poem with a real and obvious message about protecting the environment.

Anything by Beatrix Potter

Lots of choice, lots of native wildlife, lots of potential learning and probably the best illustrations of all I looked at but I found "The Tale of Mr Jeremy Fisher" which was the one I managed to get hold of contained some quite difficult words. I am not sure how many people under the age of 20 can read the word "Ptolemy".

'Follow the Swallow' by Julia Donaldson (who also wrote The Gruffalo)

This author is a prolific writer and has a range of stories, several of which contain native wildlife. I really liked this particular one as it wasn't just a fun story, there were also several education issues you could draw out from it such as migration and seasonal changes. Most of the characters were native and the illustrations contained more that were not mentioned. I also read '*The Snail and the Whale*' which contained the unusual potential discussion point on how humans can affect the navigation systems of sea mammals. In the past I have also read and enjoyed "Sharing a Shell".

'The Animals of Farthing Wood: The Adventures of Toad' by Colin Dann adapted by Clare Dannatt

This is an abridged extract from the well-loved book for older children. I found my copy in a charity shop. Lots of native wildlife characters and some good discussion points about habitat loss. Perhaps a bit too wordy for very young children.

'Wow said the Owl' by Tim Hopgood

Good for the youngest children. Introduces the concept of owls being nocturnal.

'Sally and the Limpet' by Simon James

Kids love rockpools and so do I; the second best fun you can have doing Biology, I used to tell my field-studies groups (the first being badger watching, obviously). This is a fun story with some nice information about limpets. I wish there were still nature teachers, especially called Mr Wobblyman.

'Harris the Hero' by Lynne Rickards and Gabby Grant

There are lots of native Scottish wildlife characters in this story and the main one is a puffin, an easy sell for children. I like the story but I was just a bit irritated by the insinuation that puffins nest on cliffs; they are a burrowing bird.

'The Owl who was Afraid of the Dark' by Jill Tomlinson

Another book that introduces owls as nocturnal animals. The main character in this is a barn owl.

'Brambly Hedge: Winter Story: A Party in the Ice Palace' by Jill Barklem

There are lots of different stories within this classic series. In this one, the illustrations are beautifully detailed and the story is sweet. It doesn't contain many different native wildlife characters (most are mice) but many of those it does contain are named after native plants.

HERE ARE SOME THAT I DIDN'T FIND

'Captain Beaky' by Jeremy Lloyd

"The bravest animals in the land" Please play this song to the children in your life. There are also books in existence but not at my library

'Horus the Peregrine Falcon' by John Miles

Didn't manage to find this but it is available to buy online and looks relevant

'Rusty Flies South' by Graham Appleton and Sally Bell

Again, looks relevant but even though it is published by the BTO, you can't get it on their website.

AND SOME NEWER BOOKS FOR OLDER CHILDREN

'The Last Wild' by Piers Torday

I am reading this now and enjoying it a lot

'The River Singers' by Tom Moorhouse

Couldn't get hold of this but any book with water voles as the main characters gets my vote!

Photo: Sue North

How healthy is your wildlife?

The Garden Wildlife Health team want to know

by Lydia Franklinos

The Garden Wildlife Health (GWH) project investigates diseases affecting British amphibians, reptiles, hedgehogs and garden birds.
This work is important because diseases can negatively impact wild animal welfare and may even cause population declines of some species. Likewise, certain wildlife diseases have the potential to cause ill health in humans, livestock and pets. Our project carries out disease surveillance by monitoring the health of wildlife populations. This enables us to understand the conditions that affect our native wildlife species and then to rapidly detect new threats when they emerge so we can assess their impacts and identify mitigation actions when appropriate.

Disease surveillance is beneficial to wildlife since it helps us to evaluate whether a species may be under threat, as with the case of squirrel pox virus causing declines in red squirrels. It helps us to identify and protect against conditions that could be spread from wildlife to people and vice versa. We can also safeguard the health of pets and livestock that may be affected by wildlife disease. For example, pet tortoises are susceptible to the same ranavirus that affects wild amphibians. Our work informs guidelines on best practice for feeding and habitat management so that we can ensure optimal animal welfare for our native wildlife.

In order to do our work, we rely on members of the public to report sightings of sick or dead wildlife and to submit samples for analysis. With the help of GWH volunteers, we have discovered several important threats to UK wildlife. One example is the detection of finch trichomonosis, a disease that affects British finches. This condition is caused by the parasite *Trichomonas gallinae* and causes lesions in the gullet of affected birds leading to complications including lethargy, fluffed-up plumage, regurgitation, emaciation and, often, death. Since the disease was first detected in 2005, it is thought to have caused a decline of around 50 per cent in Britain's greenfinch population. Thanks to our participants, we were able to discover this disease, assess its impact and provide practical guidance on how to help protect finches from this threat.

Post mortem examinations are carried out by GWH vets who inspect for signs of disease (Photo: ZSL)

Along with our partners at Froglife, the British Trust for Ornithology and the RSPB, we want to learn more about the health of British amphibians and reptiles. We are interested in all conditions that may be affecting wildlife; from infectious diseases, to peculiar cases such as amphibian drownings during mating and newts with extra limbs. But how do we understand if a disease is negatively impacting a population and causing a conservation issue?

Our project receives reports via our website from members of the public that have noticed sick or dead wildlife. Our project vets provide each participant with guidance as to what diseases may be occurring and what they can do to help. If an animal is reported as dead, participants can liaise with the vets about submitting the carcass to try to determine the cause of death. Post mortem examinations are carried out in a laboratory by our vets who inspect for signs of disease and a detailed report is sent to participants with the findings. By identifying the likely cause of death, we can give more accurate advice on mitigation actions for prevention and control and also help to achieve a positive outcome from these unfortunate situations by contributing to our wider understanding of the conditions that affect these species.

Common frog with ranid herpesvirus disease (Photo: Doug Mackenzie Dodds)

The information collected is then used to understand if a disease may be occurring in a particular location, season or species. We then compare this data with population monitoring studies to see if a particular condition may having an effect on a population.

GWH uses its findings to inform the general public, government and non- government organisations of any threats and what can be done to safeguard wildlife health.

There are two infectious diseases of major conservation concern affecting amphibians worldwide which we are currently investigating. Amphibian chytridiomycosis, caused by infection with fungi *Batrachochytrium dendrobatidis* (Bd) and *Batrachochytrium salamandrivorans* (Bsal), and Ranavirus disease, caused by a virus.
Chytridiomycosis has been associated with dramatic amphibian population declines worldwide. The disease can cause skin reddening, shedding and ulceration (especially at the tips of the toes), and unusual behaviours. However, most cases have no visible signs of disease and "apparently healthy" animals can be found dead. Bd was first detected in GB in 2005 however, it doesn't appear to be causing population declines. Bsal was recently discovered affecting wild salamanders in the Netherlands and Belgium. We have not yet found the disease in British amphibians although, it has been detected in collections of pet newts and salamanders within GB. Bsal is known to be deadly in our native great crested newt so it is critical that we continue to investigate any reports of sick or dead newts.

Amphibians with Ranavirus disease may have reddening of the skin, skin ulceration, and signs of bleeding. Although all species of amphibian in Great Britain are considered to be susceptible to ranavirus infection, only in the common frog has this disease been associated with population declines. Most of the ranavirus reports we receive come from South East England but we are seeing that over time the disease is spreading to other areas.

Very little is known about the health of British reptiles and this probably has a lot to do with the fact that they are secretive, cryptic animals so are rarely spotted. Several of our native reptiles are in decline including the adder and the sand lizard and we are investigating whether disease may be threatening British reptiles. We need your help to find out more about these vulnerable species.

A map of suspected amphibian ranavirus reports we have received 2012-2016 (Photo: ZSL)

Without the involvement of the general public we wouldn't be able to learn about the health status of British wildlife and how we can help them. Please assist us to learn more by reporting any sick or dead wildlife that you see on our website www.gardenwildlifehealth.org . Also check out our website for factsheets about common wildlife diseases, best practice advice for wildlife-friendly gardens and our new interactive map detailing reports and post-mortem examination findings!

GWH tips for healthy wildlife

1. Never release exotic species of amphibian or reptile into the wild.
2. Don't move amphibians or spawn to different ponds to prevent the spread of disease
3. Build rockeries or log piles for reptiles to bask on
4. If you own pet amphibians, disinfect all waste water from enclosures to prevent the spread of disease
5. Report any sick or dead wildlife to www.gardenwildlifehealth.org

Photo: Darryn Nash

Hampton nature reserve butterfly walk

by Liz Morrison

Picture an idyllic summer's day walking through a meadow, the sound of birdsong, the scent of dew rising through warm air alive with the buzzing of insects and butterflies dancing amongst the flower heads.

Butterflies have long held the fascination of naturalists. From Victorian collectors to the modern day amateur photographer, we have enjoyed butterflies. Their variety of colours and forms are celebrated through art and fashion. Different cultures revere these winged beauties as symbols of hope, joy and transformation. Easily identifiable, people of all ages can enjoy spotting and recording butterflies and many wildlife enthusiasts begin their entomological interests observing the humble butterfly before venturing into trickier groups of animals.

Photo: Sue North

Froglife volunteers

For the last 8 years dedicated Froglife volunteers have been monitoring butterflies on Hampton Nature Reserve, the site of Orton Pit SSSI (Site of Special Scientific Interest). Each week from the first week in April, through to the last week in September, volunteers walk the same path counting the numbers of different butterfly species that they see. The path is divided into sections representing different habitat types such as neutral grassland, scrub and woodland.

What is an amphibian and reptile conservation charity doing monitoring butterflies you might wonder? Since 1976, SSSI's and local nature reserves from all over the UK have been monitored in this way as part of the UK Butterfly Monitoring Scheme (UKBMS). More recently the wider countryside survey has begun to take data from areas outside of such sites. Timed butterfly counts are used where known colonies of rarer species exist and citizen science comes to the fore with the big butterfly count held every year, for the public to participate by counting butterflies in a chosen area for 15 minutes. The data is entered into the national database held by Butterfly Conservation and the Centre for Ecology and Hydrology and forms part of a vital long-term dataset.

Detecting environmental Change

Butterflies, like amphibians and reptiles, are environmental indicators. That is to say, their presence and numbers tell us something about the character and quality of the habitats in the area. Fluctuations in butterfly populations are influenced by climate change and habitat loss through change of land use such as development and agricultural intensification. In recent years the use of neonicotinoid pesticides and the spread of non-native species pose additional threats. Our native amphibians and reptiles are subject to the same types of threats.

Butterflies, amphibians and reptiles are all poikilotherms, cold-blooded animals entirely dependent on climatic conditions for their activity. Numbers of sightings over a season can indicate the impacts of meteorological variations on populations.

Surveying Butterflies

When surveying for butterflies, as for amphibians and reptiles, we try, as far as possible to ensure we are surveying when the optimum temporal and climatic conditions prevail. This means any rises or falls in numbers are more likely due to environmental conditions like habitat quality rather than what the weather is doing at that moment.

Volunteers on the Hampton Nature Reserve butterfly walk. Butterfly and day flying moth species from top left to bottom right: gatekeeper, meadow brown, six-spot burnet moth, ringlet, common blue, large skipper, meadow brown, cinnabar moth, small white.

For UKBMS Pollard walks are conducted during the flight season, between 10.45am and 3.45pm when activity is greatest. Butterfly species sighted within a 5m band of the transect path are recorded. Walks are only conducted if weather conditions are dry with wind speeds less than 5 on the Beaufort scale as most species will seek shelter in strong wind and rain. Temperatures for records must be at least 13 degrees Celsius if skies are clear or over 17 degrees Celsius if overcast to ensure butterflies are warm enough to be active.

Whilst we do our best to rule out the daily fluctuations from influencing results, the annual climate patterns are detectable. 2012 was described as the disaster year for butterflies with 52 of the UKs 56 native species suffering national declines due to prolonged periods of cold, wet weather. Whilst some recovery has been evident in 2013 and 2014, local extinctions of very specialist butterflies are feared.

Bio indicators

Butterflies are associated with every type of terrestrial habitat with the exception of dead wood. Different species' preferences for particular larval food plants and adult nectar sources define their habitat preferences and as such butterflies have been used as bio indicators representing insects in the State of Nature (SoN) Report for UK Wildlife which collectively found that 60% of all UK wildlife is in decline.

Some of our commonest butterflies have suffered long term declines. Butterfly species with a combined affinity for a particular habitat type have been grouped together to form habitat indicators in the UK Ecosystem Assessment. At present there is a woodland indicator and farmland indicators. An urban indicator is in development to help us monitor this rapidly expanding habitat type. The fluctuations in numbers of these species groups allow us to monitor the state of those habitats.

Common butterflies on the Reserve

On Hampton the ringlet is our most abundant butterfly with nearly a

thousand records this year. Ringlets along with meadow browns are found right across the site. The larvae of both species are grass feeders and the open grassed relief of the site provides plenty of food for the species. The aptly named speckled wood is another grass feeder and is the only butterfly to be frequently recorded under the closed canopy of the oak woodland Jones Covert.

Woodlands

Woodland edges often have the greatest number of different species. The phenomena known as the edge effect occurs because a range of habitats, microclimates and food plants occur in a narrow strip along the woodland edge, from open habitat with short vegetation right through to taller vegetation, shrubs and finally closed canopy woodland. Butterflies benefit from both the sheltered and sunny conditions that arise in pockets of woodland edge as do the food plants they favour.

The common nettle feeders associated with woodland edge like the photogenic peacock with its distinctive eyed wings and the small tortoiseshell are frequently observed on Hampton Nature Reserve and are often found along woodland edges. The comma is most faithful to the bramble of the west edge of the woodland; adults are often spotted on fermenting berries in late summer.

Open Habitat

Species like the common blue feed on clovers and trefoils growing on the site in open areas. Interestingly another of the most biodiverse areas of the reserve is a newly created mound bordering the verge of a newly built road. The disturbed soil is particularly rich in trefoils providing both larval and adult food. It will be interesting to note if the level of diversity in this area is sustained once the road is completed and opened to traffic with the surrounding area being further developed for housing from former dissused clay pits.

The green hairstreak is a personal favourite with a luscious emerald green shimmer to the underwing, the larvae feed on trefoils and scrubby species like gorse and bramble. It is the commonest of the hairstreaks but very localised in small colonies, only one was spotted this year.

migrants

Summer migrants like the stunning painted lady from Africa and the richly coloured clouded yellow from North Africa and southern Europe are strong fliers arriving in summer to nectar on a range of common plant species. They are a delight to see but do not survive our winters.

Rarities

Weaker fliers, breeding in smaller numbers tend to be restricted to sites of good habitat and thus suffer the greatest declines when connective habitats are lost, for example through development or intensification of agricultural land.

The local Biodiversity Action Plan (BAP) Species the grizzled skipper and dingy skipper occur in small numbers on the reserve, both are in decline nationally. The dingy skipper feeds on vetches and trefoils and was found in small numbers this year. The grizzled skipper feeds on members of the wild strawberry family and was not detected on the transect walks this year. Monitoring is particularly important to highlight the presence of these species. Timed butterfly counts are also carried out to focus survey efforts for rarer species at fixed locations.

Image of the Hampton Nature Reserve butterfly transect showing ten transect sections covering different semi-natural habitat types including neutral grassland, scrub and woodland, (UKBMS, 2015).

Natural Delights

Of all the events on Hampton nature reserve, the butterfly walk has had the greatest age range in its participants. Grandparents in their 60's and 70's share their knowledge and love of the natural world with grandchildren as young as 5. The walk itself doubles up as an excellent site tour as volunteers can see a range of habitats along the walk including our bearded stonewort restoration ponds and the great crested newt survey ponds. Very often we are lucky enough to see a smooth or great crested newt surface for air in the clear pools. Arrival at the halfway point in Jones Covert on a hot day is rewarded with the sight of lizards basking on a log and grass snakes are a frequent site.

If you would like to join our friendly team of volunteers on Hampton Nature Reserve visit: http://www.froglife.org/what-we-do/volunteering-on-hampton-nature-reserve/ for details.

Photo: Sue North

survey season is about to start

Now is the time to talk about biosecurity

Invasive species, including plants, animals, introduced diseases and pathogens are a major cause for biodiversity declines worldwide, including for reptiles and amphibians. This threat has accelerated in recent decades due to globalisation and trade and dozens of invasive plant species, terrestrial and aquatic, are currently found in the UK, with severe impacts for wildlife, infrastructure and the economy. Freshwater invasive animals, such as the American signal crayfish *Pacifastacus leniusculus* have devastated native crayfish populations while the recently introduced killer shrimps *Dikerogammarus spp.* have already been found in areas including London, Peterborough and Northamptonshire. Amphibian diseases, especially the fungus *Batrachochytrium dendrobatidis* (Bd) and Ranaviruses, have been introduced in the UK for some time and Ranaviruses continue to cause extensive mortality in common frogs in England. In 2013 a new species of fungus called *Batrachochytrium salamandrivorans* (Bsal) was identified in the Netherlands, most likely brought into Europe via newts for exotic pet-trade from SE Asia and within 2 years caused the extinction of wild Fire salamander *Salamandra salamandra* in the country. European newt species are highly vulnerable to Bsal and in 2015 Bsal was found in amphibian captive collections in the UK and in the wild in Belgium and Germany. Bd, Bsal and Ranaviruses can be transferred between sites by movement of infected amphibians, spawn, pond water or pond equipment, nets and gloves. On the other hand, invasive plants, fish, shrimp and crayfish eggs can all be transported on wet pond dipping nets, boots, trays, clothing equipment or pond water. Seeds or fragments of highly invasive plants such as New Zealand Pigmyweed *Crassula helmsii* can also be transported with pond dipping equipment, mud on the arches of cars or on the soles of wet boots.

Fortunately some relatively simple biosecurity measures can ensure that invasive plants and animals are not spread between sites and straightforward disinfection procedures will reduce the risk of fungal diseases being transferred. The highest risks come from visiting multiple pond sites, located at considerable distance from each other (more than 1km).

Basic advice
Check, Clean, Dry

Make sure all your field equipment is checked carefully for plant or animal material before you leave the site, clean your equipment of mud and plant material and dry it well before using it on another site. For amphibian surveys at multiple sites it is vital to disinfect boots, bottle traps and any other equipment using Virkon solution.

If you keep exotic amphibian species, especially newts and salamanders - never use for surveys or temporary housing any equipment previously used for exotic pets in captivity such as tanks, nets, gloves.

Guidance and advice

The GB Non-Native Species Secretariat provides detailed further guidance on biosecurity and non-native species.
http://www.nonnativespecies.org//index.cfm?pageid=174

Disinfection of boots and other materials is simple and inexpensive.

Disinfection procedure (from ARGUK, Froglife Advice sheet and RACE sheet)
http://static.zsl.org/files/biosecurity-arguk4-511.PDF

Disinfect boots, waders, nets, bottle-traps, canes and anything else that would be in contact with amphibians or pond water. When disinfecting equipment during fieldwork the following will be required: bucket, brush, disinfectant, disposable or washing up gloves (to wear while disinfecting) and bin bags for waste. When making up bleach or Virkon solutions, pond water can be used so long as it contains little or no organic matter.

On the trail of a Dragon Day...

by Alex Draper

The London Dragon Finder project invites people to discover and help amphibians and reptiles through a diverse range of activities, from wildlife workshops, survey training, and habitat work to fun themed 'Swimming with Dragons' and open day 'Dragon Day' events. We strive where possible to offer encounters with real live animals in the wild, to show first hand how wonderful these creatures are in their wild state. However in some places where we hold events we cannot always guarantee to have our wonderful species present. One event I had to tackle was an amphibian survey training workshop in a central London park. My pre site visit in early spring revealed a somewhat poor habitat range for optimal amphibian happiness. The pond near to the visitor centre was quite large, with some marginal vegetation (mostly yellow flag iris), patrolling wildfowl and probably fish too, all surrounded by low cut grass, busy with people and dogs etc. The likelihood of seeing amphibians was not encouraging. After some exhaustive and careful searching I found one frog under a stone and one small clump of spawn. Running a night time survey in this park was also not an option at the time. So I was faced with the challenge of running an event on this site later in the year about learning to survey for amphibians with the knowledge that seeing actual real animals on the day had a very low probability: something of a disappointing prospect. Not an ideal situation for sure, but we were committed to the event so something had to be done...

Froglife's primary objective is to protect and conserve amphibians and reptile populations. This also means that as much as possible we want to avoid/reduce the amount of stress we put on individuals in our species. Froglife has a policy of not moving animals around to have on display and handling at events: despite the real benefits of seeing the real live animals, we don't feel this is appropriate and in the best interests of our species. So carting some amphibians around in plastic boxes in my back pack was not an option! I am also not a great fan of using power point presentations for this sort of training. I much prefer to keep the training outdoor focussed where possible, seeing real live animals, even if it's a bit chilly or wet, just being outdoors amongst nature. So I did not want for people to experience just me talking and looking at a screen with pretty photos either...yeah I do know how to make my life more difficult than it maybe has to be!

What to do then?...well I knew that I could help people learn about how to survey, to look for, amphibians in the wild, but getting people to then use some of those surveying techniques on the day (which is what I like to do) might not yield any real results. So I had to assume that real animal encounters was off the books. The next best thing then to aim for would be to deliver an experience that might still yield a real 'look and discover' approach to the training. Often I get my best ideas in a hot bubbly bath and this was just what the situation required...thoughts wondered...what if I created a sort of 'trail' that offered a sequence of 'encounter nodes'. Each node should present a typical survey mini challenge: a scene to investigate. A Dragon Trail...

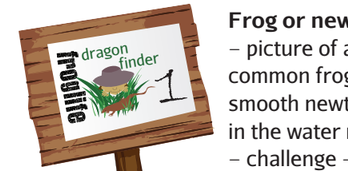
I accepted I would have to use photographs of real amphibians in varying situations but presented in a way that simulates how you would look for amphibians for real on a survey. I sketched out some ideas and let the creative juices flow...

Materials were gathered: a selection of life size (or close to) of just the right photos of frogs, toads and newts in various life cycle stages, materials, an old cheap yoga mat, cardboard box, paint, torch, plastic aquarium plants, plastic string of leaf vines, old dipping net, some plastic pegs, string...

What I came up with on the first draft was the following for the Dragon Trail. The plan was I would give my basic talk outdoors near to a water body in the park about the practical wherefores of looking for amphibians; identification tips, how, when and where to survey using different techniques such as visual and egg searches, netting and torching.

Participants would then be given a survey recording form and FSC Identification guide and invited to use our Dragon Finder app too and asked to go on the Dragon Trail. Looking for amphibians just as they would for real using the knowledge and techniques that we had talked about. The Trail was set up as a series of encounter nodes along the edge of the pond in the park (the pond was real!). Each node on the trail would have a numbered peg with the Dragon Finder Logo and a number on it suggesting there was something to discover nearby but never too obvious...the survey form would be filled in as animals where encountered. I got people to investigate the numbers in a spread out non-sequential way to avoid clumping up of surveyors at each node. I then loitered around helping out as needed.

Here is what would be encountered at each node.



Frog or newt spotting – picture of an adult common frog and smooth newt placed in the water nearby – challenge – to simply spot them and identify species.

Spawn search – pictures of common toad spawn and common frog spawn mounted on an old yoga mat to float on water amongst real marginal plants– challenge – tell them apart.

Newt egg search – a dipping net with a bundle of artificial plants inside - place a picture of newts eggs glued onto two or three leaves on a plastic vine string which is then folded over and fastened with Velcro, also picture of juvenile newt and adult female palmate newt amongst plants - challenge - search the plants to find the newts and the eggs under the folded leaves and turn over the female newt to reveal its unspotted pinkish throat to identify as palmate newt.

Refugia search – see ground with a few stones and logs nearby - picture of a juvenile common toad placed under a stone or log close by – need to lift the stone to find the toad sheltering underneath

Torching box – pictures of various male newt species placed onto interior side of a closed cardboard box with a viewing hole on top and a torch left nearby – challenge – realise the need to use torch to spot newts inside dark interior of box and identify species.

So how did it all go? I have to say it worked out very well and people appreciated the situation and getting involved with the activity of looking for amphibians using their new knowledge. Yes I used pretty pictures but screens were avoided (except for using our app – but that's ok!) and people had to really look and find and identify animals amongst real site conditions, in the outdoors with a slight chill in the air, a breeze moving across the trees and a bright sparkle on the water.

This success led us to use the Dragon Trail for our public open day events called Dragon Days that have members of the public visiting our stand. I used a simplified questionnaire trail sheet and also included some reptiles, with great photos of a grass snake and a slow worm hidden under some roofing felt tiles in a sunny sheltered place just as we might do on a real survey. It worked really well as a family activity for young and old alike and offered a great launching off point for chatting about our wonderful species. Next up Dragon Finder the board game...well one day!

The River Nene Mapestry

by James McAdie

Froglife's River Nene Dragon Finder Mapestry creation came to an end in December 2015 when Long Suttons Market House hosted the final textile art session. The project has seen the Mapestry travel along the River Nene from Northampton to the Wash stopping at a different location each month to create a textile map of the river, its wildlife and landmarks. It took in 14 different locations and enlisted the help of the public young and old to create a collage of the river and its wildlife. Textile artist Liliane Taylor then stitched the collage to a backdrop to create 12 separate sections of the river throughout the seasons.

To celebrate the completion of the Mapestry Froglife hosted an event in Peterborough's grand Town Hall. The 12 sections of the Mapestry were displayed together for the first time and contributors were invited to view them whilst being entertained with music by the operatic Classical Reflection and a speech by Froglife's Patron Mike Dilger. We would like to extend our thanks to everybody that contributed to the Mapestry and all that attended the celebration event. Please keep an eye on Froglife's website www.froglife.org to see where and when the Mapestry will be on tour.

A pond can play an important role in a wildlife garden and will attract amphibians and insects such as dragonflies. It also provides an area for birds and mammals to drink and bathe. In short, there is plenty of life in and around the pond!

Along the shore you can plant beautiful marsh and riparian plants to create a colourful transition into the rest of your garden. Many of these wetland plants are beautiful when in bloom, and also serve as a food source for insects and as shelter for small animals.

This month our favourite is Purple Loosestrife, commonly found in moist meadows and wetland areas, the stunning upright purple spikes of flowers that last throughout the summer will attract bumblebees, bees and butterflies to your garden.

Find out more and see our full range of plants online at www.birdfood.co.uk/plants or call 0800 731 2820

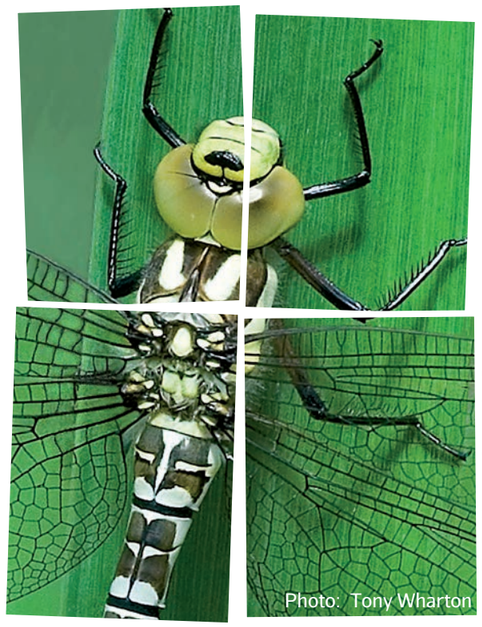


Photo: Tony Wharton

Scotland's Living Water

by James Stead & Dr Silviu Petrovan

Between 2009 – 2013 Froglife ran the very successful Living Water Projects in Glasgow and North Lanarkshire, Scotland. One of the main aims of both projects was the creation and restoration of ponds - with over 140 ponds created or restored in total. Whilst ponds were created to best practice methods it is vital to monitor and study new ponds to see how they develop over time, which species colonise them and also to compare them to pre-existing ponds. Also, despite the fact that amphibians were the main target group for the habitat works it is important that ponds are valuable in the wider conservation context and as such monitoring included not just amphibians but also aquatic invertebrates and plants.

How and which ponds were monitored?

A total of 39 ponds were chosen over 9 sites to be monitored in 2012, 2013 and 2015. Of these, 31 ponds were created or restored by Froglife whilst 8 ponds were pre-existing 'control' ponds. Monitoring was different for each of the groups with netting, torching, egg-searching and bottle trapping for amphibians and netting and kick-sampling for invertebrates. Plant species were measured for their abundance and dominance in and around the ponds.


One of the Froglife created ponds at Smithstone Mosswater, North Lanarkshire

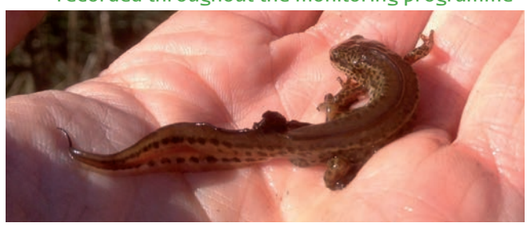
What does the monitoring show so far?

Monitoring results for amphibians have been positive since 2012 with the highest presence records of amphibian species occurring in 2015. Common Frog *Rana temporaria* and at least one newt species were found at all of the sites and Common Toad *Bufo bufo* were recorded at 5 sites. Glencryan Wood in North Lanarkshire in particular had high numbers of newts present in ponds created by Froglife while pre-existing ponds had low numbers of newts. At St. Maurice's Pond in North Lanarkshire and Dams to Darnley Country Park in Glasgow, the creation of smaller fish-free ponds in the vicinity of larger lakes make the area excellent for amphibians.

Monitoring of marginal and open water plant species counts increased from 2012 (135 species recorded) to 2015 (159 species recorded) suggesting a steady growth in biodiversity across ponds. The new ponds represent a welcome addition to habitat diversity – with 7 marginal species and 9 open water species of local interest being recorded. One locally rare species, Horned Pondweed *Zannichellia palustris*, was also found in a pond within the study in North Lanarkshire.

Monitoring of aquatic invertebrates at selected ponds within the study has shown their importance for a range of species. 8 out of the 39 ponds surveyed were classified as of 'fairly high conservation' value (6 of these being created by Froglife) under the Community Conservation Index (CCI). The CCI score is a measure of the conservation importance of freshwater macro-invertebrate communities. Several of the highest scoring ponds were created by Froglife with many ponds being classified as of 'moderate' conservation value – at or above the average score returned for the control ponds on sites. The monitoring programme also uncovered some exciting finds - in 2013 two nationally scarce species of beetle were recorded during monitoring, *Gyrinus minutus* and *Hygrotus nigrolineatus*, while in 2015 a species uncommon to Scotland was also observed, *Gammarus lacustris*, a freshwater amphipod.

This male Palmate Newt was one of many species recorded throughout the monitoring programme



What's next?

We're currently analysing all the data in collaboration with researchers from Leeds University and we're hoping to publish a full report on the findings of the monitoring programme later in 2016. The ponds are continuing to develop and it will be important to continue the monitoring into the future, perhaps every 3 years.

out and about with froglife

We have an exciting diary of opportunities for you to meet some of the Froglife team, get involved with projects or help out through volunteering.

Information on our events can be found on the website at **www.froglife.org/events**



Froglife offers a consultancy service through Froglife Ltd and all profits are gifted to the charity. Froglife Ltd is a well-established company offering a wide range of ecological services to a diverse client base. We operate to the highest professional standards at competitive rates with income from this service supporting our charitable work. Froglife Ltd has a specific, but not exclusive, focus on amphibians (particularly great crested newts) and reptiles. Froglife Ltd works in close partnership with Local Authority planners, architects, developers, schools and others. Please visit our website for more information **http://www.froglifeltd.co.uk**

froglife Ltd.


Photo: Dave Kilbey

frogalogue

To order visit www.froglife.org/shop
or call 01733 602102

We have a range of cards, books and gifts for Christmas and other occasions in the online Froglife shop at www.froglife.org/shop. All funds raised support our conservation and education work.

Dora Designs Doorstop Prince The Toad £17.50 see our online shop for more Dora designs.

Ever wondered what could be hiding in your garden? Why not pick up this useful FSC information guide for £3.00

Friendship: Not sure what to buy someone? Why not give a Froglife Friendship as a gift, and your friend will receive a pack of goodies. £18.00

SALE: 50% off all Christmas cards

App quiz answers:

1. Adder eye (photo: Matt Wilson)
2. GCN white flash (photo: Dave Kilbey)
3. Palmate throat (photo: G. Upton-Fletcher)
4. Grass snake neck (photo: Tony Wharton)
5. Common frog leg (photo: David Palmar; www.photoscot.co.uk)

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Lin Wenlock (Chair), Roger Downie (Vice Chair), Frank Clark, Philip Wheeler, Gordon MacLennan, Richard Donahue and Inez Smith.

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.