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New Forest Smooth Snakes

Adrian Barnes

As a child, I lived in Zimbabwe, Germany and Cyprus. In 1954 my father caught a Green Lizard for me and I turned into a reptile and amphibian enthusiast. 'Enthusiast' hardly describes the passion I developed, particularly for snakes. From then on it was the predictable story; hunt, or buy and collect. By the 1980s I had a fair collection, with my double garage converted to a reptile house. I did some captive-breeding and gave a number of educational talks.

Slowly but surely, however, I began to realise that, although it was interesting to keep exotic reptiles, I needed to do more to help protect our native species. Consequently, when I moved to the New Forest, I gave up my collection and started taking a more serious interest in native herps. In 2003 I discovered that the then Herpetological Conservation Trust had launched a survey of Smooth Snakes in the New Forest and were looking for volunteers. Since by then, I was working from home, I was able to devote a fair amount of time to the project. I didn't get involved in the science; I simply lifted tins.

The job was straightforward:

- Make a note of weather conditions, time and temperature.
- Find the tin.
- Check underneath for snakes. I might add that, over the last eight years, I have found Adders, Grass Snakes, Slow-worms, newts, toads, field mice and voles, not to mention many interesting invertebrates. I also found a Nightjar nesting beside one tin and was able to follow the progress of the offspring to final flight. On another occasion a new born fawn was curled up next to a tin.
- On finding a Smooth Snake, measure it (nose to vent; vent to tip of tail) and record head markings, which are distinct to individuals. This latter task is not easy, so I have always taken a photo of the side and top of the head.

- Note the tin number and time even if there was nothing under it.
- Find another tin and repeat.
- At the end of the year report my findings in a usable form.

Since that first year I have made just over 4000 observations. The Forestry Commission made life much easier by letting me have a key to the enclosures. This allowed me to use my Land Rover to reach tins much more quickly than I could manage otherwise.

In 2003 I was monitoring all of the 83 tins north of the A31. Nine tins harboured Smooth Snakes that first year and I was happy and on nodding terms with a number of Smooth Snakes, particularly a large female who was fond of lurking under Tin 91. So was Chris Glead-Owen, who was in charge of the research.

Smooth snakes on previously burned land in the New Forest (Adrian Barnes)



In April 2004 I started again, but this time I was in for a shock; a large swathe of heath, including the location of Tin 91 had been burnt as part of the forest management. I enquired how this could be since it had been clearly identified as Smooth Snake habitat and I thought that it was protected by law as were the individuals.

Since then 43 of the original tins have been destroyed by cutting or burning. Of these 11 were known Smooth Snake habitat as indicated in the records I provided to ARC Trust (formerly The HCT) and Forestry Commission. I have continued to raise this as an issue every year without receiving a satisfactory answer from any of the authorities.

However, since I am a pragmatist by nature, I formulated the idea that if it could be proved that the burnt areas were re-colonised by Smooth Snakes in a reasonable time, at least it would indicate that the practice of burning, if properly managed, would not drive the species to extinction in the New Forest; a fate that befell (I believe) the Sand Lizard.

With this in mind, last year I put a new tin down on the same place as the original Tin 91. I have lifted it every week or so in season since then, but without too much hope. Consequently, imagine my delight when I lifted it a few weeks ago and found two Smooth Snakes in residence, proof at last that the heath can be managed without driving the resident reptiles to extinction.

I have approached the Forestry Commission to ask to study their burning records, going back to the early 1990s, to see if the above can be reinforced. If we can demonstrate that previously burnt areas are now harbouring resident Smooth Snakes I will at least be satisfied that the species is relatively safe, even if I have to accept that individuals will perish.

The Forestry Commission has been very cooperative and I will be studying their records shortly.

I am pleased that, after nearly 60 years as an enthusiast, I might have been able to do something worthwhile for herps although it's a pity it wasn't done earlier; watch this space for more news.

CLARE Launches London Amphibian and Reptile Atlas

John W. Wilkinson, ARC

The first ever Atlas of London's Amphibians and Reptiles was released on Friday 20th July at a Press Launch to celebrate the achievements of the CLARE (Connecting London's Amphibian and Reptile Environments) Project.

CLARE was a collaborative partnership between ARC, London Wildlife Trust, GiGL (Greenspace Information for Greater London) and London's ARG (check out the very cool LARG logo, by the way!) with funding from the Heritage Lottery Fund. The ARGs from counties surrounding London were also involved. CLARE's aims were to raise awareness of the fact that there really are amphibians and reptiles in London and that their conservation there depends on more and better knowledge of them. So a central goal was to get more people involved in herpetofauna recording in London and the atlas is a key product. The on-line version of the atlas is available at <http://www.gigl.org.uk/Ourdatasets/LARA/tabid/217/Default.aspx> and hardcopies will be supplied to London Boroughs, libraries etc. Distribution maps highlight areas where more recording needs to be carried out as well as important areas that could be linked together to help create more robust populations. During the course of the project, several training events covering identification, survey and habitat management were carried out by ARC staff.

Logos of CLARE partners

amphibian and reptile
conservation 



GiGL



Work to record, reconnect and protect our herpetofauna is particularly important in the context of the threats currently faced in areas such as London, where development pressure can be particularly high and habitats are already very fragmented.

The Atlas was launched at LWT's Camley Street urban nature reserve near King's Cross, a haven for London's wildlife including some of our native amphibians (as well as red-eared terrapins!). ARC's Tony Gent, LWT's Matthew Frith, GiGL's Chloe Smith and CLARE Project Officer Sophie Hinton spoke to an enthusiastic audience of ARG members, other stakeholders, partners and members of the press in a fetching blue yurt. They highlighted how the atlas is a product to be built upon by further recording and practical conservation work – all of which will ultimately lead to better information and more knowledge about how London's herpetofauna can be protected and enhanced. Attendees were then able to meet some native herpetofauna courtesy of Ray and Jon Cranfield. The launch was followed by drinks and pizza for volunteers and partners involved in the project. Sadly, though further funding has been applied for, Project Partners are still awaiting a decision on whether or not this will be forthcoming. Watch this space for details! Having initiated so many positive steps in the conservation of urban amphibians and reptiles, we really hope to build on this work by developing the goals of CLARE further.

Other Herpetofauna Atlases

Colin Williams

As well as the wonderful new atlas of London's herpetofauna, described in the previous article, there are a number of other atlases available to students of Britain's amphibians and reptiles. These include atlases for Suffolk and the North-east of England, which may be found at <http://www.arguk.org/atlasses-and-surveys/view-category>.

Also to be found on this page are a number of other resources which anyone interested in the distribution of our native herpetofauna will find useful and interesting. These include surveys of newts, a variety of resources regarding chytrid and plenty of information on adders.

If any other ARGs (or anyone else) have similar publications relating to their areas, we would be delighted to hear from you. We are keen to share as much information as possible within the herpetological community.

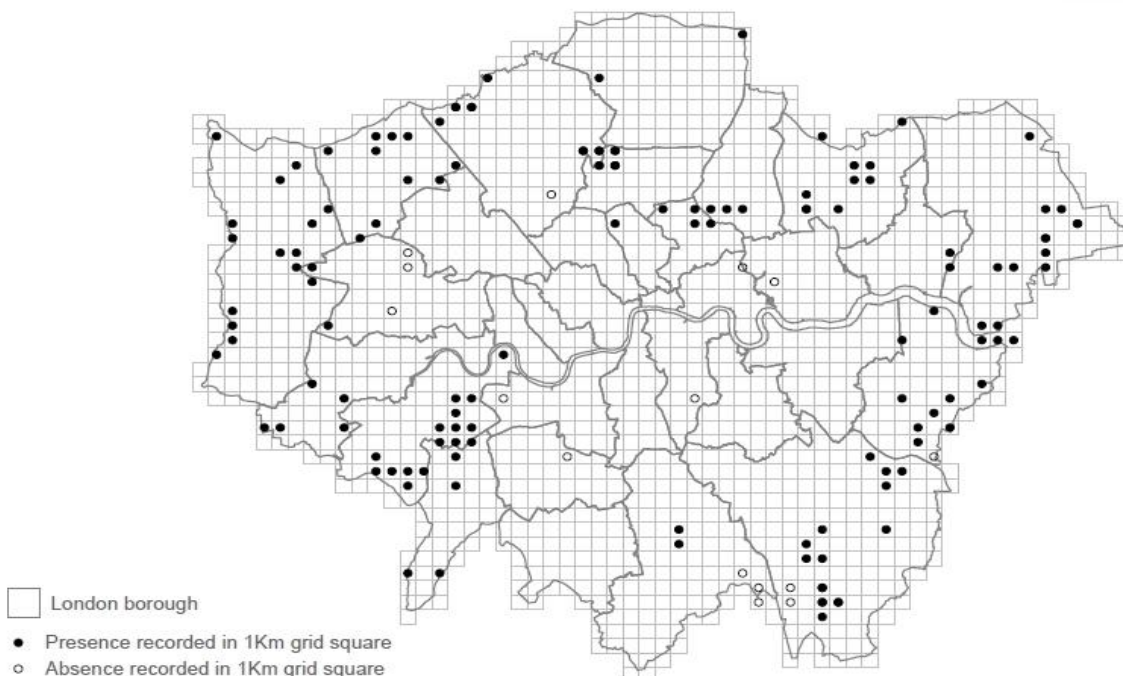
Other useful publications, advice and guidance are also available on the ARG UK website.

Map from the London Atlas

London Grass Snake Atlas

Connecting London's Amphibian & Reptile Environments (CLARE) Project

GiGL



Contains Ordnance Survey data © Crown Copyright and database right 2012

THE NATTERJACK IN BRITAIN TODAY

John Buckley, Amphibian Conservation Officer, ARC Trust



Adult natterjack toad copyright Lee Brady

In 1776 the first record of the natterjack toad in Britain was made in Lincolnshire, but it was not until 1948 that the full distribution in Britain was reported. Natterjack distribution at a 10 x 10km-square level was essentially complete by 1970 with more intensive studies finding additional populations within these squares over the next 20 years. The last new population was found in 1993.

Following significant declines, it is now estimated that the remaining populations represent only 20-30% of those in existence a century ago. These populations are monitored annually by local surveyors, site managers and volunteers and details including metamorphic success are summarised in the Natterjack Toad Site Register for the UK.

In 1999 there were 38 known native localities considered to be separate populations. However, since the population structure has been rationalised on the basis of genetic studies there are now considered to be only 13 naturally occurring populations (some with several subpopulations) and 16 successful translocations. Translocations, however, are not an easy conservation option. The average size of naturally occurring populations is four times that of translocated ones, and more than 77% of British natterjacks still live in natural populations. On this basis the main thrust of conservation effort should be to maintain colonies of natural origin.

Data suggest that the total adult breeding

population the UK in 2009 was 4,000 individuals. Seventy percent are found on the west coast bordering the Irish Sea, with slightly more on sites along the Merseyside Coast and North Wales than in Cumbria and along the Scottish Solway. The remaining natterjacks are on sites in East Anglia and the south of England.

Overall the British natterjack population was stable between 1999 and 2009. However, trends differed among the regions. In southern England and the South Irish Sea areas (Merseyside and North Wales) populations overall were rising; in the North Irish Sea region (Cumbria and the Scottish Solway) they were stable; but in eastern England they were declining. Trends of decline correlate with the proportion of years in which no toadlets were produced.

The natterjack toad is a creature of open habitats. It is an active predator and thrives where there are large areas of bare ground, or very short vegetation, and shallow, un-shaded, ephemeral pools. It burrows to avoid extremes of temperature and dryness and its long breeding season allows for the unpredictable nature of ephemeral ponds. The natterjack's three main habitat types in Britain are sand dunes, upper salt marshes and heathland, the latter where population declines have been most marked.

With increased understanding of natterjack ecology, success rates for post 1980 translocations have improved to an average of 67%, but it remains far easier to re-establish natterjacks at coastal dune sites (75%) than on heathland ones (58%).

Chytrid was first identified in natterjacks at a site in Cumbria and has since been found at many sites on the west coast including in the two biggest thriving natterjack colonies in Cumbria. It is hard to decide whether declines are due to the effects of chytrid or adverse changes in the habitat. It may yet prove to be the case that whilst chytrid is affecting individuals it is not having an effect on the populations, where the habitat remains favourable.

Despite all conservation efforts natterjack numbers have not risen over the last decade and we are in the position of having to work hard just to stand still. Fortunately the analysis of data for 1970-2009 shows a way forward. At sites where there is grazing, natterjack populations are faring better than at ungrazed sites. Conservation effort should now be directed towards improving terrestrial elements of the natterjack habitat now that pond creation and management are well understood.

NATTERJACK NOTES FOR 2012

Kent - The Return of the Natterjack

**Tony Swandale, East Kent Coastal Warden,
Kent Wildlife Trust**



Natterjack pool in Kent copyright Lee Brady

Natterjacks became extinct in Kent over 50 years ago, however, Kent Wildlife Trust has been working closely with the Amphibian and Reptile Conservation Trust (ARC) to reintroduce the species to the county and, as a result, they are now breeding at Sandwich and Pegwell Bay National Nature Reserve. This important milestone has been achieved only through the patient work and persistence of successive members of staff and volunteers for a decade.

Extensive habitat restoration works, including the creation of some 20 dune pools of varying depths, has helped provide the conditions required by the toads. We were pleased to report that tadpoles translocated to the site in 2008 and 2009 survived; adult males were heard calling for the first time in 2010 and females reached sexual maturity by the following year. That year the drought prevented breeding taking place; this year, by contrast, the rain came at the right time! 'Home grown' tadpoles were discovered in two of the ephemeral dune pools in late May. Over two hundred tiny toadlets emerged from the pools before the end of June – thankfully shortly before they dried out.

We would like to gratefully acknowledge the support of Grantscape for their inputs to the re-establishment of both natterjack toad and sand lizards at SPB NNR.

Norfolk – A good year for natterjacks at Holme

**Gary Hibberd, Warden, Holme Dunes,
Norfolk Wildlife Trust**

After a disastrous year for natterjacks in 2011 at Holme Dunes, 2012 started with great promise, with the first full chorus on 10 April. On subsequent nights the grazing marshes reverberated with natterjack calls. This activity translated into breeding success, with 57 spawn strings recorded on 20 April, and a total of 143 in the main pool, plus a further 28 in the other smaller pools by the end of the spring.

Despite the dry spring, rainfall remained high throughout the summer, keeping the natterjack pools half-filled well into July, and all looked set for a bumper year. However, the excessive rainfall and lack of sunshine did bring its own problems as the cooler water seemed to delay tadpole development (tadpoles with just back legs were still recorded well into July), whilst boosting vegetation growth, which may also have impeded tadpole development as well as reducing foraging opportunities for the adults as the pool edges turned into swampy reed beds. In desperation we scythed a swathe of vegetation mid-summer to try and get some sunlight to the water surface and give them a boost. On the plus side (for the natterjacks) the dragonflies were also hit by the wet weather – and we think that there was reduced predation from them, as well as from the wading birds which found it more difficult to access the pools.

The apparent delay in development means that it was quite late in the summer before we saw the emergence of hundreds of tiny toadlets – around 1 cm long, as well as recording a smaller number of larger toadlets from previous years.

One interesting observation concerns the adjacent grazing marshes (privately owned), which have traditionally not been successful for breeding natterjacks. However, in 2012 there was a massive chorus on many nights from this area, and we think that the prolonged rainfall may have encouraged the natterjacks to breed there. We were unable to survey this area during the wader nesting season, however, recent observations have revealed the presence of toadlets in far greater numbers than previously, suggesting that this was the case.

Looking to the future we think that the terrestrial habitat is key and we are reviewing the possibility of introducing a few Dartmoor sheep onto the dune systems to take the vegetation down.



Natterjack toadlet copyright Tony Swandale

Cumbria – A Mixed Season

Bill Shaw, Cumbria Natterjack Officer, ARC

The Cumbrian natterjack season started off very promisingly in late March with two weeks of very warm weather. The first calling was heard on the 24th, about a week earlier than normal. This prompted a lot of early spawning, certainly in the south of the county.

There then followed a prolonged cold spell which meant that the spawn did not develop as fast as usual, so a lot of it was predated or got covered in fungus.

With the onset of the rain and rising temperatures came more spawning events, with four having been recorded at some sites.

Tadpole development has been slower than normal as the water temperature has failed to rise because of the constant topping up of the pools by the rain. Currently (mid-July) water levels are as high as in the winter.

There has been good toadlet emergence at Sandscale Haws, Haverigg and Sellafield so far. However, overall the 2012 season has been below average.

An interesting observation has been the predation of spawn by horse leeches, which seem to be spreading.

Suffolk – Success at some sites

John Baker, ARG UK

Historically natterjacks in Suffolk were found at ten or so sites, coastal and inland. But Eastern England has seen the greatest declines in this species and the natterjack was probably extinct in Suffolk by the 1960s. Conservation effort has hence been reliant on reintroductions. Attempts to establish populations at four sites have not been wholly successful, but the wet late spring and summer weather this year has worked in the natterjacks' favour – large numbers of well-grown tadpoles have been seen at two of the breeding sites giving hope of a boom year for metamorph production.

Scottish natterjacks – help us before we croak!

Peter Minting, University of Highlands & Islands

Natterjacks in Scotland are in urgent need of a helping hand, according to the results of a survey by ARC in 2012. The natterjack is Scotland's rarest native amphibian, with only a few populations found along the Solway coast in Dumfries and Galloway. This year, breeding activity was poor at the majority of Scottish sites surveyed. The introduced population at Mersehead RSPB reserve, which was featured on Countryfile on 20th May, was one notable exception. Here intensive management, including use of temporary ponds within a dedicated enclosure, may have been beneficial.

Overall, the results suggest natterjacks are struggling in Scotland. In 2012, the spring weather was not ideal for spawning but the number of spawn strings and calling males was still low when compared to nearby English sites. Natterjacks have declined at the Wildfowl and Wetland Trust's Caerlaverock reserve, where staff are concerned that the frog-killing chytrid fungus may be to blame. However, research by Sussex University suggests natterjacks can usually tolerate chytrid, which is now fairly widespread in the UK.

In Scotland the majority of natterjack populations are found in upper saltmarsh or 'merse' habitat. Intensive grazing is necessary for natterjacks to thrive, as they feed mainly by catching insects in open areas of short grass. Many areas of merse on the Scottish side of the Solway have become overgrown, a situation which will only be reversed if farmers can be persuaded to graze their stock on the merse. In England one farmer has successfully marketed 'saltmarsh lamb' as a speciality product, which while boosting profits, has also boosted the fortunes of the natterjack.

If the distribution of the natterjack in Scotland is to be maintained, a great deal of effort is required to ensure suitable habitat is available. Local volunteers have continued to provide valuable information, in addition to survey work by ARC. Landowners should be able to apply for funding to manage habitat for natterjacks under the Scottish Rural Development Programme (SRDP). ARC hopes to secure more funding for natterjack conservation and build on the work completed during 2012, which was funded in partnership with Scottish Natural Heritage (SNH).



Adult natterjack toad copyright John Baker

The Herpetological Society of Ireland conducts a ground-breaking survey

Stephen Martin, HSI Science Officer

The Herpetological Society of Ireland (HSI) is a non-profit organisation which has been in existence in Ireland since early 2009. Our main aims are to advance and promote the awareness and understanding of herpetoculture, and the conservation of native and exotic herpetofauna, through education, learning, and

research. We aim to support, or create, opportunities for Society members to become involved with herpetology in any capacity or to gain further education and skills.

With this broad remit, and large spectrum of membership, the challenge is to provide something for all ages and levels. The HSI achieves this using a quarterly publication entitled *Lacerta*. To date, this has been a resounding success and has had growing subscription yearly. A variety of events run by the HSI have helped us reach towards our goals as a society, and in the summer of 2012 the HSI is taking a step towards helping to conserve our native herpetofauna.

In late 2011 the senior science officer of the HSI, Robert Gandola, submitted an ambitious funding application for a study into the presence, prevalence, and effects of the amphibian disease, chytridiomycosis in Irish amphibian populations. This was new ground, not only for the HSI in terms of leading a project of this scope, but also for Irish native herpetology as no such survey has ever been conducted in the Republic of Ireland. In the absence of concrete evidence either way, Eire has officially been designated as chytrid fungus free.

To HSI's delight, our proposal was successful, and funding was awarded by the Heritage Council (www.heritagecouncil.ie) in early 2012. This reaffirmed HSI's convictions that such a survey was an essential and long overdue project. The survey came to be called the Irish Amphibian Chytrid Survey (IACS), and is in full swing during the summer of 2012. This article is intended as a summary of the IACS progress to date, giving information about the disease, about our surveying programme and outlining the plan for the conclusion of the project.

The disease chytridiomycosis is caused by the fungus *Batrachochytrium dendrobatidis* (Bd). This fungus is unusual because it is the only type of chytrid that is a parasite of a vertebrate animal (amphibians specifically; Bd has not been observed to infect other vertebrates such as reptiles, birds or mammals). With the apparent ability to infect most of the world's approximately 6,000 amphibian species, Bd is an extremely significant concern for biologists and conservationists worldwide. Chytridiomycosis has been linked to devastating population declines and species extinctions. Amphibian population declines due to

chytridiomycosis can occur very rapidly, sometimes over a just a few weeks and disproportionately eliminate species that are rare, specialized and endemic.

Swabbing a smooth newt (Teresa Dunbar)



Infection with *Bd* occurs inside the cells of the outer skin layers that contain large amounts of a protein called keratin. With chytridiomycosis, the skin becomes very thick due to a microscopic change in the skin. These changes in the skin are deadly to amphibians because these animals absorb water and important salts (electrolytes) like sodium and potassium through the skin and not through the mouth. Abnormal electrolyte levels as the result of *Bd*-damaged skin cause the heart to stop beating and the death of the animal. This is especially concerning given the importance of transcutaneous respiration in amphibians. In tadpoles, one of the more serious effects is a deformation of the keratinous mouthparts, which can lead to abnormal development and inability to feed.

Conducting a scientific survey of any kind is, by its nature, a laborious and expensive undertaking. Conducting a nationwide survey involving the location, capture, swabbing, and safe release of wild animals is infinitely more problematic. The HSI therefore drew up a strategic plan, aiming to sample each of the three native species of amphibian, namely the common frog *Rana temporaria*, the natterjack toad *Bufo calamita*, and the smooth newt *Lissotriton vulgaris*. It was decided to conduct sampling of animals by organising regional teams of volunteers at locations in Cork, Dublin, Galway, Wexford, Kerry and Belfast. Local team leaders would ensure that local knowledge of population hotspots and breeding grounds would provide adequate sample numbers for the survey to be worthwhile.

Sampling all three species gives a greater impression of the possible presence of chytrid fungus in Irish populations, and also of its national distribution. This information could prove to be invaluable in the coming years, as natterjack toads are particularly susceptible due to their extremely localised presence on the island. Natterjacks are present in only two locations in Ireland, one natural population in Kerry in the southwest, and one established population in Wexford in the south east. Due to the rapid spread, and devastating results of chytrid infection of a population, natterjack populations in Ireland are particularly vulnerable to catastrophic depletion.

In terms of scale, the HSI intends to sample up to 500 individual animals from a diverse range of populations, to provide as broad a sample as possible. Due to the fact that funding has been awarded by a body in the Republic of Ireland, funding must be directed towards surveying in the southern counties; however the HSI has undertaken to ensure that populations from Northern Ireland are represented also, at an extra cost to be absorbed directly by the HSI.



Common Frog Rana temporaria in Ireland (Teresa Dunbar)

Volunteer involvement has proven itself to be of critical importance to conduct surveying thus far, and more than 50 volunteers across the country have become members of local swabbing teams headed by team leaders selected by the HSI committee. Volunteers range widely in age and background, with HSI members, interested members of the wider public, and other volunteers affiliated to various national conservation societies.

Once accepted, volunteers are required to apply for licensing by the National Parks and Wildlife Service of Ireland, in order to legally collect and swab wildlife. Natterjack swabbing is being

conducted by national park rangers at both population locations as the toads are listed as endangered in Ireland.

The swabbing itself is a simple process, involving the gentle application of a cotton tipped swab to the caudal ventral abdomen and the medial aspects of both hind legs. Once this non-invasive sampling is completed, the animals are returned to their capture location, and logged on the HSI website using a feature designed by HSI webmaster, Fionnan Burke. This provides a real-time account of reptile and amphibian sightings by members who wish to “log a frog”, and is proving to be a popular and useful tool for the society.

Samples are currently being accumulated, and once completed, we enter the laboratory phase of the project. The samples will be analysed by the Zoological Society of London (ZSL) using PCR technology to screen for the presence of chytrid fungus. (See previous issues for articles on the partnership between ZSL and ARG UK in connection with the ‘Big Swab’ surveys in the UK).

Searching for newts (Teresa Dunbar)



Presence, if discovered, can then be traced retrospectively to the swab location, species, date, and individual animal observations (deformities etc.), allowing the HSI to provide a base point for future chytrid studies in Ireland. At time of print, over half of the 500 samples have been obtained. Laboratory analysis is due to begin in late August, once the collection and swabbing teams have finished. PCR results are expected in late 2012 for interpretation by the HSI science committee, with a view to publishing findings in early 2013.

The HSI would like to thank:

- Zoological Society of London (ZSL),
- National Parks and Wildlife Service (NPWS),
- Invasive Species Ireland (ISI)
- Amphibian and Reptile Conservation (ARC)

for their collaboration and support of this project.

Further information on this survey, and indeed other HSI information is available on www.thehsi.org, or by emailing info@thehsi.org.

Million Ponds Project

David Orchard, ARC

The first phase of the Million Ponds Project, funded by the Tubney Trust and Biffaward, has reached a successful conclusion. The project, coordinated by Pond Conservation, working with Amphibian and Reptile Conservation as a lead partner, has helped to create over 1000 ponds to benefit Biodiversity Action Plan species across England and Wales. Work done over the past four years has focussed attention on the variety of freshwater habitats needed by these species, highlighted the importance of pond design and the value of temporary ponds. A wide variety of water bodies has been created by the Million Ponds Project, from large ponds designed for water voles, to shallow temporary pools on sand dunes designed for the natterjack toad.

Amphibian and Reptile Conservation’s role in the project was to help create ponds to benefit the natterjack toad, common toad, great crested newt and grass snake. This has been a great success, with over 467 ponds created for the great crested newt and 47 for the natterjack toad. This is perhaps one of the most successful efforts to create such ponds in recent years. David Orchard, Amphibian and Reptile Conservation’s Pond Project Officer said “We know that amphibians need good terrestrial habitats, but without suitable breeding ponds they are unable to survive. The Million Ponds Project has been an opportunity to support amphibian populations across England and Wales in a very practical way.” One of the great things about ponds is that they support a whole community of wildlife, so a pond created for amphibians will benefit plants and invertebrates as well.

Another important achievement of the project has been to increase the general understanding of the importance of clean water, the essential component of good quality ponds. (Clean water is that which is not contaminated by runoff from roads or agriculture or excessively disturbed, for example by artificially high numbers of birds.) Over the past three years the project has produced a huge range of advisory material, free to download from the Pond Conservation website www.pondconservation.org.uk/millionponds The Million Ponds Project is a fifty-year vision with the aim of ensuring the UK has at least one million ponds in the landscape, approximately the same number that existed in 1900. Work over the past four years has been the first step towards this ambitious target, providing a firm foundation for the future.

Conservation Help for Wales' Real Dragons

Mark Barber, ARC Wales

Amphibian and Reptile Conservation (ARC) announce the start of a new ground breaking project dedicated to the conservation of Welsh dragons (amphibians and reptiles) and the habitats they depend on, funded by the Countryside Council for Wales (CCW).

The project, entitled *Community Engagement in Amphibian and Reptile Conservation across Wales*, aims to encourage a sense of ownership and responsibility for Welsh biodiversity and provide opportunities for people to engage with amphibians and reptiles as part of the shared natural heritage of Wales.



Sand lizard copyright Mark Barber

The Project will involve:

- Promoting recording, with a national survey and monitoring campaign to produce information about species distributions and status for different audiences, and gain wide involvement through 'Citizen Science' projects, outreach and public participation.
- Supporting the current network of ARGs in Wales. Encourage the creation of new ARGs in areas lacking activity. If there is no group in your area please contact Mark: mark.barber@arc-trust.org
- Developing and initiating habitat enhancement work through partnerships with land managers including developers, statutory organisations, nature conservation bodies and private land-owners.



Common frogs breeding in a Welsh pond copyright Mark Barber

- Providing training for individuals, community groups and conservation professionals .
- Running a symposium on amphibians and reptiles in Wales to promote an exchange of ideas and knowledge about conservation work in Wales.
- Assisting with and coordinating Wales Amphibian and Reptile Link (WARL).
- Further developing links, planning and development structures to enhance and safeguard amphibian and reptile populations.

For further information contact Mark Barber (Wales Project Officer) mark.barber@arc-trust.org, www.welshdragons.org.

Big Spawn Count

Kathryn Walker, Pond Conservation

A massive thank you to everyone who took part in the first [Big Spawn Count](#) in 2012, which we ran jointly with the Amphibian and Reptile Groups of the UK. The results are now in. With such enthusiasm from our brigade of budding ecologists, we managed to break the four figure mark, with over 1000 people taking part, which is spawn-tastic!

Overall, the average number of spawn clumps in garden ponds was a fraction over twelve. Reflecting this, most people recorded somewhere between 1 and 10 clumps of spawn – the result of 1 to 10 female frogs visiting to breed. It was quite common for people to report over 20 clumps, and nearly a fifth of people had this much spawn. Breaking that figure down by the size of the pond, we weren't surprised to find that bigger ponds had more spawn, with an average of 28 clumps. The smallest garden ponds had an average of just over 6 clumps, with medium sized ponds averaging 13 clumps.

Ray Cranfield (Essex ARG) reported the largest amount, with an incredible 400 clumps from an urban greenspace in Colchester, Essex. This was one of only two ponds reported to have 200+ clumps, with Jean Johnston's large garden pond coming in second with an equally impressive 200 (or so!) clumps.

'Super' spawn pond in Colchester copyright Ray Cranfield



But the research doesn't stop here. It's also been interesting to read about the *types* of wildlife living in your ponds, and we'd now like to find out more - which leads us on to our next *Big* survey, the Big Pond Dip. Now in its fourth year, the Big Pond Dip uses a simple biological assessment method to find out the condition of your garden pond as a wildlife habitat. The results are then

entered on-line, via the Pond Conservation website using a simple form.

The information gathered will help us learn more about how good garden ponds are for wildlife, and what types of pond support the most animal life. So, the more people dipping, the better the information; helping us to make garden ponds even better for wildlife, and improving the advice and support given in the future.

We hope you're able to support us by getting involved. Get clicking to start dipping - visit our website: www.pondconservation.org.uk to find out more.

Not So Common Lizard

Mark Nicholson, CRAG

Cornwall Reptile and Amphibian Group member Shaun Denney came across this lovely melanistic common lizard, basking with normally coloured animals on roadside crash barriers in the St Austell area. He wondered how common melanism is in this species.

Normal and melanistic viviparous lizards (Shaun Denney)



A circular to CRAG contacts drew a number of interesting comments on this. The general view was that while all common lizards are born black, relatively few retain this colour into adulthood like this specimen. The black colouring is thought to give young lizards a thermoregulatory advantage, but with increasing size the need for camouflage becomes more important. The proportion of melanistic individuals varies greatly between populations and may be affected by factors including the intensity of predation and the nature of the habitat.



Common frogs copyright Erik Paterson

East Kilbride Frog Survey

Erik Paterson, Clyde ARG

During 2011 following a discussion with South Lanarkshire Countryside and Greenspace Ranger John Hawell, I was emailed a report compiled in 2000 detailing sites where Common Frogs had bred in my local town of East Kilbride. It was quite short, only two pages long, detailing a list of 18 sites in the area where frogs had been observed or reported as breeding. I was quite keen to follow this up in 2012.

My first port of call was to attempt to locate some of the sites formerly surveyed but this immediately hit a bit of a snag – there were no grid references for any of the ponds! To give you some idea of the difficulties, one pond was simply labelled 'Greenhills Road' – Greenhills road is four miles long! Fortunately though I've spent the last 10 years watching frogs in the area so quite a few of the sites were more easily found. Only 11 sites from the original report were able to be located and 8 of these had frog spawn, which was a decent start but I wanted more.

On March 14th, the local newspaper, the East Kilbride News, published a short article I had written about the survey (see next page), calling

out for local people to send in their records of frogs breeding in the hopes that this would give me access to some garden ponds which would not otherwise have been recorded. The response was magnificent.

I received reports of eight additional ponds from local residents which I was able to visit and verify bringing our total breeding sites to 16. Coupled with a little intuition, the help of the aforementioned ranger and pure dumb luck, the site number continued to rise until I hit a grand total of 30 breeding sites in 2012.

These sites are exceptionally variable, ranging from puddles to lochs, seven breeding sites were shallow puddles in fields, many just pools of water that gathered where tyre tracks were left, five were marshes; eight were garden ponds; five were large bodies of water including decorative ponds and a disused quarry and the remaining five were S.U.D.S. ponds – which seem ideal for amphibians, in this area at least. Breeding density was also very variable, of the 26 sites surveyed whilst there was still spawn present, 15 had fewer than 10 clumps of spawn in; 1 had between 10 & 20; 4 had between 20 and 30; 1 between 30 & 40; 2 between 40 & 50 and three between 90 & 100 – with a grand total number of frog spawn clumps counted resting at 573, which of course means there must have been at least 573 female frogs breeding this season in the 56km² survey area.

The survey also brought in some records of other amphibians breeding in certain sites; in three of the ponds surveyed, Common Toads were found to be breeding and two of the ponds also revealed Palmate Newts – perhaps that is a project for another year? All in all an excellent survey season, and now that we have the report I have compiled complete with grid references and photos of each pond, we can look at what we can do to help connect, maintain and improve these sites for amphibians and subsequently, other fauna and flora.

East Kilbride News, Wednesday, March 14, 2012 23

Erik needs your help to survey frog population

By Lynda Nicol

SPRING is sprung as the poem says, but for one young East Kilbride man it is a question of finding out not where the birds are but the frog and toad populations.

For 20-year-old Erik Paterson, from The Murray, is undertaking a survey of frog breeding sites in the town and surrounding areas and he is appealing for your readers to help him.

Erik, who has recently started a new job as a supply youth worker, got involved in the survey through prior experience with the Clyde Amphibian and Reptile Group as well as with the Friends of Lanlands Moss.

Explained Erik: "The surveying is a hobby. I've long been interested in amphibians and reptiles and adding to already existing records of them within the local area is something I rather enjoy doing."

"The senior countryside ranger at Cullinstown Country Park, John Hawell, forwarded me a copy of the 2000 report published by a now ex-ranger of breeding sites throughout East Kilbride and he said I thought it would be interesting to see whether the sites were still active with breeding frogs or not, or a follow-up is being done this year."

"Through the News I would like to ask local residents if they would be willing and able to send records of large numbers of frogs accumulating and breeding unknown to local records."

Former Cullinstown High School pupil Erik explained frogs and other amphibians are great in gardens because they eat pests to plants such as slugs and small snails.

He added: "A healthy amphibian population in your area can be an excellent indicator of the health of the local green spaces as they are an important and easily often overlooked little group of animals."

"If you do happen to have frogs or even toads or newts breeding in your pond or you know of another site where they are, please don't hesitate to get in touch with me via email at: edrog.survey@bt.com - thanks and I look forward to your records."

Erik, who would love eventually to get a job in conservation, particularly one which involves herpetological observation – that of amphibians and reptiles – is also asking local folk and in particular drivers, to be on the lookout for road migrations and report these to him.

Often the migrations of hundreds and even thousands of the creatures to their breeding sites in the spring provides quite a spectacle – and can pose a real danger, certainly for the birds.

Reporting the danger spots might help to prevent accidents and to have safe crossing points provided for the creatures in future.

APPEALING FOR HELP: Murray man Erik Paterson is asking local folk to get in touch with him if they have frogs breeding in their garden pond.

breeding frogs to me this year.

"This year is looking set to be a bit of a bumper year for breeding frogs so far and it seems as good a time as any to expand upon already established knowledge of frog breeding sites and populations in East Kilbride. Several sites have already been surveyed but what we are really lacking in is records from garden ponds where there may be

Wildlife in the Forest of Dean

Robin Ward, Gloucester ARG

The Forest of Dean is one of the most diverse forests in the country. The natural balance of mixed woodland sustains a wide variety of wildlife including fallow, roe and muntjac deer; various birds of prey including the goshawk; and of course reptiles and amphibians. GlosARG recently discovered a new colony of Great Crested Newts in a undisturbed pond, deep in the forest, and we are still buzzing from this find! Discoveries like this give you the determination to survey every single water source in the area, to hopefully discover even more, and we are actively doing this. While watching smooth newts breeding, we didn't expect to see a great crested newt pop up to breathe, but when one did we were gobsmacked! On closer inspection there were around 20 great crested newts in this one area, all in the water breeding.

GlosARG founders, Scott Passmore and Robin Ward, have been raising awareness of wildlife in the Forest of Dean for many years and also run a conservation group called Friends of the Boar; set up to fight for this animal's protection. The boar are very controversial and up until late 2011 they were culled with no closed season in place, which meant suckling piglets were being orphaned year after year. FotB fought the Forestry Commission, the Council and DEFRA on this issue and from September 2011 until September 2012, after they realised they had reduced numbers to a critical level, no boars have been shot for culling purposes.

Juvenile Adder (Robin Ward)



Wild Boar (Robin Ward)

The cull is due to start again in September and we (FotB) are now part of a boar liaison group set up to oversee the welfare of this animal. The panel consists of FotB, Martin Goulding (PHD in wild boar behaviour and leading boar expert in the UK), senior council member, Forestry Commission and a Forest Verderer.

Unchallenged, who knows how long this would have carried on for and what impact it would have had on this species, but it proved that with determination, people power can prevail! FotB consist of three active members and we will keep fighting until this animal is fully accepted and given the protection it deserves and requires.

The conservation of reptiles and amphibians is also at the top of our list and now working with the support of Gloucestershire Wildlife Trust, we will be working hard to create, manage and protect the valuable and diverse habitats for future generations. Our aim and focus is to eventually make Gloucestershire a recognised area for all wildlife conservation and for organisations like the Forestry Commission to think twice and consult us before damaging this unique area.

Glos ARG has already acquired, despite being only recently founded, two patrons. The first is vet Zara Boland, well known for her TV work with Channel 5, The BBC and Sky. The second is Sean McCormack, a vet specialising in both domestic and exotic animals, and an experienced reptile keeper.

Air Mail Amphibian

Andy Ryder, Avon ARG

Late one evening in June, I received a call from a concerned individual asking if I knew anything about frogs. As I get quite a few calls in the average week I assumed this was another member of the public who had seen a frog in their garden and wanted to know what to do about it. I braced myself and asked "how can I help?" After a short conversation it was clear that this gentleman had something a little more unusual to say. He had been into a tile warehouse earlier in the day to purchase a box of tiles for decorating the bathroom. Sensibly he requested that the staff opened the crate to check that all of the tiles were in mint condition. The helpful assistant was soon screaming as hidden in the crate lurked an unusual looking amphibian. As it turned out, that particular crate was part of that morning's consignment received from Turkey, and contained a rather unusual stowaway. To stop the somewhat panicked sales assistant screaming, the caller took responsibility for the animal and said he would try to get it to the right people. After calling the zoo and various other organisations somebody suggested calling me.

After describing the animal to me I asked if I could take a look and the caller kindly agreed to drive across Bristol to drop the amphibian off. The description sounded like a green toad but the caller assured me it was a frog and that it was quite happy in a bowl of water.



Green Toad (*Bufo* [*Pseudepidalea*] *viridis*) (Photo by Andy Ryder)

The caller arrived late at night with what did in fact turn out to be a Green Toad (*Bufo* [*Pseudepidalea*] *viridis*). I placed the toad in a temporary vivarium for the night.

A day or two later the toad was still not eating so I decided to move it to a much larger vivarium and to try to trick it into thinking it was still in the wild (an old trick that I've found works well with rescued hedgehogs). Within half an hour of being in the new enclosure the toad began consuming wax moth larvae at a prodigious rate. The as-yet-unnamed toad has been eating well ever since, is gradually becoming more tame, and seems to be very comfortable in his new surroundings, often serenading my wife and I with evening toad song as we eat our dinner.

Around the ARGs

Cornwall Reptile and Amphibian Group (CRAG)

Shirley Cardus, CRAG

Just to let *ARG Today* readers know we are still very much alive and kicking down here in Cornwall! CRAG has been around for many years, sometimes keeping below the radar, but we have seen a boost in activity and members in 2012 due in part to the enthusiastic input from students of the university in Falmouth.

Our conservation work has gained momentum, with habitat improvement work at the (introduced) sand lizard site occupying several weekends early in the year. Core members of CRAG have received licences to monitor sand lizards, and we will be checking to see if the 'upgraded' basking and breeding areas have attracted the lizards. In addition, our licences will allow us to investigate a report of smooth snakes seen on the north coast. We also plan to carry out some reptile habitat work on the north coast, mainly to benefit the adders on the site.

Permits have been granted by South West Water (SWW) for CRAG to set up a monitoring scheme for reptiles and amphibians around two reservoirs; the work will be a joint effort between CRAG, SWW staff and students who are keen to learn field skills.

Local students organised toad patrols in the Falmouth area, the first for many years, to compare sightings with historical data; however, due in part to the vagaries of the weather, the results were rather disappointing and inconclusive.

CRAG members attended a BioBlitz day held at the university campus, helping the students to survey for reptiles and amphibians and identifying some easy ways to improve biodiversity by building ponds and creating log piles.

An outing to a local reserve in April was well supported and enabled us to update the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) with records of palmate newts, toads and toad tadpoles, as well as many bird, insect and plant species. Unfortunately the wet weather has played its part in cancelling further visits, though I'm sure the amphibians are loving it!

CRAG is currently arranging its last few activities of the reptile season, to make the most of the September/October window of opportunity – and possibly November, given Cornwall's particularly long reptile season. A number of tinning surveys are being set up for the 'common' reptiles and a final push will be mounted to gather sighting data from Cornwall's sand lizard introduction site. As soon as winter sets in, members will be starting some practical habitat improvement work on an adder site.

Plans for 2013 include setting up training opportunities for students, CRAG members and others. Anything related to amphibians needs to be organised very soon: Cornwall's frogs start breeding from October in some of the most southerly sites and by the end of January much of the spawn will already have been laid in the west of the county.

Northamptonshire Reptile and Amphibian Group

Brian Laney

2012 has been a quieter year but there a few notes of interest. With permission from all parties including the Parish Council the first stage of scrub clearance was undertaken on the Willow Walk Pocket Park at King's Cliffe for the sake of the reptile populations there, especially adder. The pocket park comprises a disused railway line with embankments that have become totally scrubbed over with very little basking areas left. Hopefully more management on the site can be done in winter 2012.

We led another successful reptile training course for the Northamptonshire Wildlife Trust on the 15th April. Participants were shown a large number of slow-worms from Kings Cliffe and Fineshade. Common Lizard was also seen in smaller numbers at Fineshade. However at least nine adders were seen in at least four locations around Fineshade including a site where corrugated sheeting proved productive for both adder and slow-worm. Eight of the adders that were seen were male. At the Old Brewery Studios where the course was run from in King's Cliffe, the garden has a small pond which in 2012 was totally dry. A pair of palmate newts were found under stones bordering the dried up pond. A number of the course participants had not seen Palmate newt before. Palmate newt is still rare in Northamptonshire but I am sure there are more sites to be found for this species, especially in the King's Cliffe area.

The annual toad migration on the minor road between Long Buckby and West Haddon produced over 140 toads that were saved, not a large number but important all the same. During this time a number of people contacted Brian Laney where new toad crossings were noted and help needed. So BBC Radio Northampton and the Chronicle and Eco newspaper were contacted about the plight of the toads to encourage more interest and hopefully extra helpers. Donna Robins contacted Brian Laney over a large toad crossing in the St Crispins Hospital redevelopment area on the outskirts of Northampton. Here the roadside drains/gullypots proved a big problem as well as the road itself for the toads. Plans for a new Pocket Park are afoot hopefully to be toad friendly with a new pond for the toads since the main breeding toad pond is to be lost to housing development.

Sussex Amphibian and Reptile Group Starts Again

Peter King

After a period of inactivity the Sussex Amphibian and Reptile Group (SxARG) has reformed. Under the guidance of past committee members a new committee has been formed and is looking forward to becoming an active group within the scope of local and national amphibian and reptile conservation. Currently administration and the creation of roles within the group are being established and various projects are being investigated.

One of our committee members who has been involved with SxARG for some time has recently been instrumental in the designation of a site within East Sussex as a SSSI (the first in 20 years) based on its amphibian and reptile community and we are liaising with the existing landowners in terms of taking the site over for long-term management.

Many project ideas are being discussed and the group is looking forward to developing these over the coming months and updates will be posted on our new website.

Oxford Amphibian and Reptile Group

Angie Julian, Secretary OxARG

In 2012 OxARG was re-launched with an expanded committee, and a formal membership scheme. We are delighted to report that this has been successful, attracting a lot of interest locally, as well as forging closer links with a number of local wildlife groups, including the wildlife trust (BBOWT), Oxford Urban Wildlife Group and the Friends' of Aston's Eyot. As well as our own events, which included a family 'Reptile Ramble' through one of our local inner city reserves at Lye Valley – one of the few places to see Common Lizards in the city. In 2012 we also attended Oxfordshire Goes Wild at the Natural History Museum, the Oxford Urban Bioblitz, and Go Wild in the Chilterns. By taking live animals along with supporting literature we hope to enable people to experience and understand better our native herps at first hand. We've also conducted regular amphibian surveys in conjunction with Oxford University and Oxford Brookes University, as well as a special great crested newt training course for OxARG members in partnership with BBOWT at Dry Sandford Pit.

The public generally have also been hugely enthusiastic about record collecting, and we are up-dating our database at a great rate. However, one of our major concerns is still our declining adder population and despite following up all reports, our only confirmed (small) population is at the BBOWT Warburg reserve. As a result we continue to study the reptile assemblages in and around Greenham Common (Berkshire), where we recorded an amazing total of 14 adders, as many grass snakes and common lizards, and over 100 slow-worms on one sunny July day.

Reptile hunting at Greenham Common on a historic brownfield site.



Conference Time

Colin Williams

Wales Amphibian and Reptile Symposium 3 November 2012

The inaugural Wales Amphibian and Reptile Symposium, together with the 2012 Welsh and Marches ARGs Meeting, took place on Saturday 3 November at Llandrindod Wells.

It was a fascinating and informative day. Mark Barber from ARC spoke about the All Wales Community Project and ARG UK's own Angela Julian spoke about the respective roles of ARG UK and the ARGs themselves. David Sewell outlined the latest in developing protocols for surveying British herpetofauna.

Amphibian enthusiasts were treated to talks on the South Wales Pond Project by Peter Hill of ARC; the Million Ponds Project by Anna Bransden of Pond Conservation; Natterjack toads in North Wales; Welsh great crested newt modelling by Andy Arnell and great crested newt mitigation by Brett Lewis.

Those interested in reptiles were not forgotten either, with talks on a reptile refugia study by Rob Parry; reptile mitigation by Alan Shepherd; reptile habitat management by Jim Foster; common lizard surveying by Stuart Graham; Adder DNA research by Nigel Hand and Aesculapian snakes in Wales by Wolfgang Wüster.

2013 Herpetofauna Workers' Meeting 26 & 27 January 2013

Lothian ARG & Angie Julian

Running for over 25 years, this annual meeting forms the mainstay of the herpetological calendar and attracts enthusiastic herpers from all over Britain and Ireland.

The meeting opened with an overview by Tony Gent and Jim Foster of ARC, and was followed by an update on the current status of herpetofauna in England by Paul Edgar (NE), in Scotland by Chris Cathrine (Clyde ARG, Caledonian Conservation) and John McKinnell (SNH), and a fascinating talk on herps and Hugelkultur in Wales by Peter Hill which gave a good grounding for the talks to follow.

Many excellent projects and research topics were presented, and speakers included Freya Smith on her work with chytrid with the Zoological Society of London, followed by a

practical perspective from Rob Gandola (HSI) on the trials and pitfalls of chytrid surveying in Ireland. We were also treated to an entertaining overview of the situation and prospects for amphibians across in Europe from the world-famous Trent Garner.



"It was this big, honest" - Richard Griffiths expounds on his vision for citizen science.

Various workshops were on offer. A very popular workshop on Managing Adder Hibernacula was held by Jim Foster (ARC), Paul Edgar introduced a new NE initiative assessing SSSI status for herps, Nigel Hand and Angie Julian developed citizen science projects with four 'super ARGs', and Mark Barber and Jon Cranfield put sterling work into developing an ARG resource pack.



Anna Muir tells us about her research on the effect of climate on the common frog.

Richard Griffiths opened a session on great crested newts with the latest thoughts on how best to survey populations. John Wilkinson then discussed this species' status in Scotland and how Habitat Suitability Index (HSI) can be used to target survey work. This then led on to other presentations on nativeness to the Highlands (David O'Brien and David Orchard) and evaluation of the effectiveness of mitigation work (Brett Lewis).

On the reptile side Chris Glead-Owen (CGO Ecology/DARN) presented his latest findings on the current status by of adders, and Chris Catherine provided an expose of Scotland's rarest reptile, apparently not the Loch Ness Monster but the Grass Snake.

However the news was not all positive, sadly Scottish natterjack toads are not doing as well as hoped. The effect of changing climate on amphibians was also brought into discussion by Anna Muir with her PhD research on frogs. Daniele Muir highlighted the menace presented by drain pots for amphibians and small mammals, and her investigations into this.

Finally we heard from Rob Williams, on the impact of the Froglife Living Waters project in the Glasgow area, and a heart-warming tale from Trevor Rose of FAH of how he battled the combined forces of his local council and Sustrans to save precious lizard habitat on Kinnaber Moor from the bulldozer.



And the prize for the most aerodynamic lizard?

No herp workers' meeting would be complete without a full programme of social activities. On Friday various members of the assemblage celebrated Burns night in style, which included ceilidh dancing from some of our (younger?) more energetic herpers. On Saturday night we had a welcome re-run of Jim Foster's *Have I Got Newts for You*, which outed various curiosities including the meaning of Puddock's Cruddles, the sexual peccadilloes of *Rhinella proboscidea*, and just what is unique about the Chinese Soft-Shelled Turtle?

There were also some unique charades, that apparently related to great crested newt mitigation practices (we had presumed these were more obscure sexual peccadilloes, though perhaps they were).

This was followed by a lot of apparently random paper lizard throwing, and our very own herp-themed raffle, which raised £370 for the 100% Fund.

We would like to thank the conference speakers, workshop leaders and delegates for making our return to Scotland so memorable. We are also grateful to our generous sponsors: Amphibian and Reptile Conservation • Caledonian Conservation Ltd. • Friends of Angus Herpetofauna • Glenmorangie • Habitat Aid • Hesketh Ecology • Natural England • Scottish Natural Heritage • Surrey Amphibian & Reptile Group.

The Record Pool

The online recording tool for amphibians and reptiles was launched at the 2013 HWM. The Record Pool has been designed to allow anyone to report their herp records online. Please find out the latest on this exciting project at: www.arguk.org.

Keep in Touch

Colin Williams

It is always great to hear what is happening in the many Amphibian and Reptile Groups around the country. If you have any events to report, stories to tell or results to record, please let us know. Stories or newsletters should be e-mailed to the editor at info@arguk.org.

The latest news from ARG UK can be followed on the website, our Facebook page and through Twitter presence, if you want more immediate contact. You can also sign up for our monthly e-bulletin which has the latest snippets of news and views on www.arguk.org/news.

If there is anything you would like to see in this newsletter, please let the editor know. This is your newsletter and we are keen that it reflects your wishes and interests as much as possible.

Above all, we really want to hear about all of your activities, triumphs, news and concerns and to share your news.

ARG Today is the newsletter of the Amphibian and Reptile Groups of the UK (ARG UK). It is edited by Colin Williams and Angie Julian. All submissions to info@arguk.org.



Amphibian and Reptile Groups of the UK
VOLUNTEERS WORKING FOR THE CONSERVATION OF AMPHIBIANS AND REPTILES

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