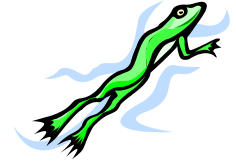


Leicestershire Amphibian and Reptile Network



*Newsletter No. 29
November 2016*

Environmental DNA (eDNA) Surveying GCN at Rutland Water

The Freshwater Habitats Trust is a new national network which aims to collect essential monitoring information on important ponds and freshwater species. They are responsible for a novel habitat-based volunteer survey network called PondNet; which is actively running one day training events for anyone willing to get involved, supported by the Heritage Lottery Fund. May 2016 marked Year 2 of Pond Net's volunteer surveillance program of Great Crested Newts across England and parts of Wales. Volunteering with PondNet allows you to choose selected sites (with landowners' permission) of over 300 ponds to survey in selected 1 km squares. I sampled the five sites available at Rutland Water (see Figures, next page).

The method of sampling is through environmental DNA (eDNA) surveying. EDNA is DNA collected from the animal's environment, not the organism themselves. In aquatic environments, amphibians shed cellular material into the water via reproduction, saliva, urine, faeces, skin cells, etc. This DNA will persist for several weeks, and can be collected through a water sample which is then analysed to determine whether the species of interest is present. Recent research has shown that the DNA of a range of aquatic organisms can be detected in water samples at very low concentrations using qPCR (quantitative Polymerase Chain Reaction) methods.

EDNA survey packs contain: sampling ladles; gloves; pipettes; preservative tubes; copies of survey forms provided by the Freshwater Habitats Trust. Samples are taken from 20 different locations of each pond using a ladle, which is mixed in a bag and 15ml syringed into a preservative in 50ml sterile tubes. This is to prevent DNA breaking down. Samples are couriered to France and analysis is undertaken by SPYGEN: one of the main contributors to the research and development of the eDNA technique in Europe. This form of testing is 99% effective of detecting GCN presence in 1km square coverage pond environments.

The results will be used by Freshwater Habitats Trust and other environmental organisations to influence government freshwater policy. It will also help direct conservation work where it is most needed, to achieve the greatest gains for freshwater wildlife. (Note the figures on the next page).

Figure 1: Map and Grid reference for 1 km square distance site at Rutland Water.

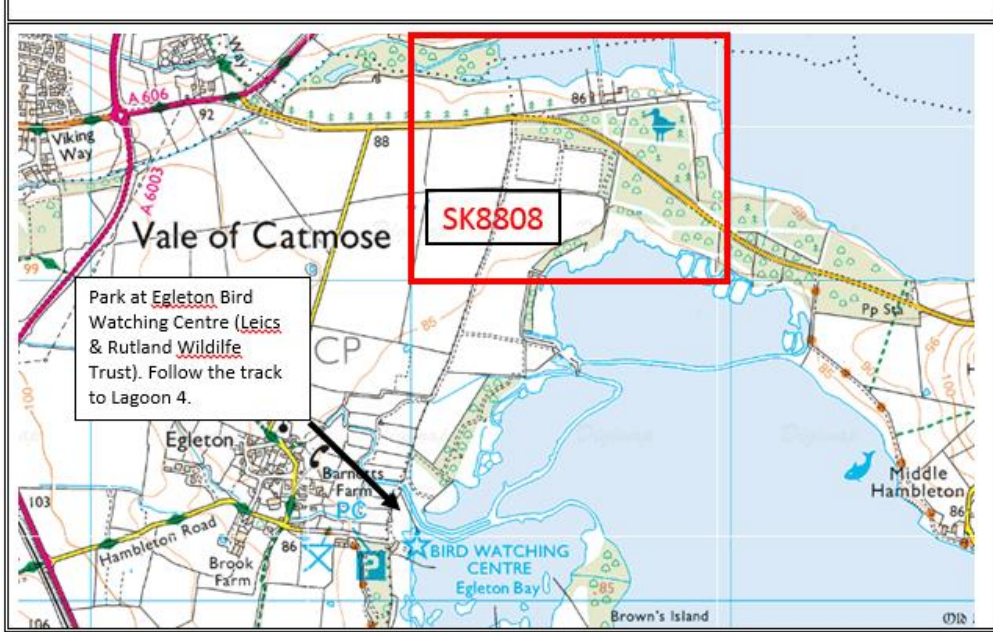
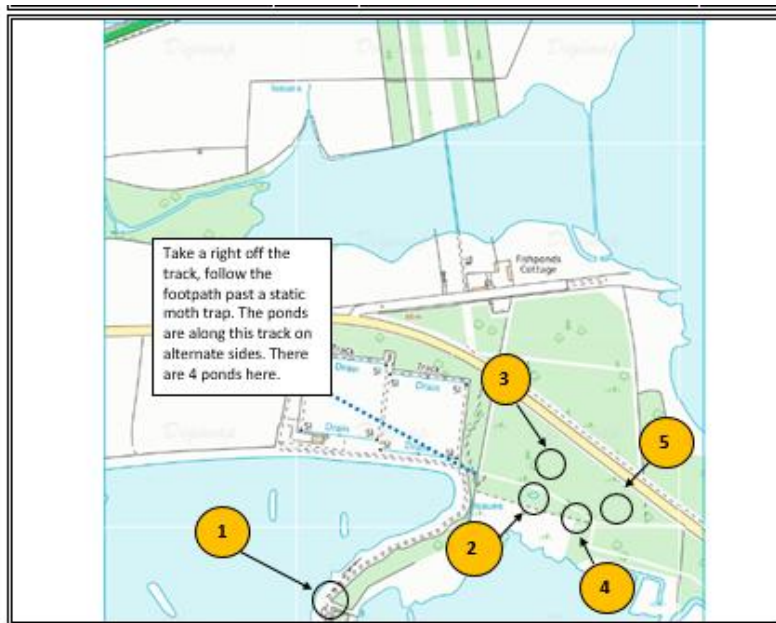


Figure 2: Location of five sampled ponds sites within 1km square distance.





The Future of LARN: Meet the New Team

Andrew Heaton:

The next section (in red) is intended to explain some changes that are going to happen to LARN in the next few months.

Leicestershire Amphibian and Reptile Network (LARN) has been active since 1999, when it was set up by Andrew Heaton to cover the absence of a full ARG in Leicestershire and Rutland. (ARGS are usually county-based Amphibian and Reptile Groups – they come under the national umbrella of ARG UK). LARN was never seen as a full ARG (the coordinator having limited spare time to spend on it) but a half-way measure, better than no ARG.

The following text appears in each issue of the LARN newsletter, providing a definition/mission statement: “Leicestershire Amphibian and Reptile Network (LARN) is an informal grouping of people interested in the status and distribution of these two lower vertebrate groups in Leicestershire and Rutland. The group is held together by a newsletter produced on an irregular basis – generally twice a year. The aims of the group are to encourage recording of herpetofauna in the two counties, and to use this data to support conservation initiatives”.

Having been running the Network for 17 years, AH would have been thinking about giving up anyway, but this move has really been forced on him by the health problems which caused him to leave the Environment Agency at an early age (he had developed Parkinson’s Disease, a progressive condition with many different effects. Some months ago, (in the 27th Newsletter) a request was made for any volunteers who were willing to help out with the running of the group - thus enabling it to continue - to make themselves known. It was very gratifying that two members put themselves forward; Liz Morrison and Lewis Mattock. Brief introductions are provided by Liz and Lewis below.

Over the next few months, the work will be split – for the moment, Andrew remains contact for the next couple of newsletters (and also as County Recorder for amphibians and reptiles). Liz and Lewis will be looking at developing the group in several different directions – renewing the newsletter, organising surveys, putting on training courses, involvement with bioblitz events, exploring different ways of promoting the group through Social Media (see article further on), etc. We would like to know your ideas on these developments - please respond to the questions below.

The New Players:

Liz Morrison:

At work I’m a Conservation Officer for Froglife, managing two Peterborough nature reserves, each supporting amphibian and reptile species of conservation concern. I

undertake population monitoring for great crested newts under licence. Volunteers help us monitor reptile populations and undertake other conservation tasks, their contribution is vital. My most memorable experience to date is of collecting samples for the genetic study of an isolated adder population. My own experience as a conservation volunteer began in Leicestershire whilst studying Applied Conservation Biology. Since graduation much of my time has been devoted to family and work in other localities, so I am keen to get back to volunteering more in my home county with LARN.

Lewis Mattock: .

My name is Lewis Mattock. I have recently finished studying my Neuroscience degree at University and graduated. My current occupation is supporting people with learning disabilities. I have also acquired a Great Crested Newt licence, and completed some amphibian surveying assessments for local water sites. I have always had a passion for reptiles and amphibians; from an early age I have had experience looking after them as pets such as my iguana or newts. My aim is to further my knowledge of herpetology and develop innovative ideas for issues within the field such as conservation.

The Questions

What should the new team be concentrating on? Please give us your thoughts:

- a) Are you satisfied with LARN as it operates now (ie as an exchange of information, through the medium of the newsletter)?
- b) How could the newsletter/communications generally be improved?
- c) Would you like to see LARN organising:
 - surveys? – if so, which species (or all?).
 - training courses? – if so, which aspects of herpetological action are you interested in receiving training for?
- d) Should LARN get involved with practical management of land for the benefit of amphibians and reptiles? If so, what would be your priorities for involvement: Wildlife Trust nature reserves / Other nature reserves / County or district council land / Non-designated (ordinary) farmland?
- e) What else should LARN be doing?

Please let us have any thoughts, before the next newsletter appears, in the spring. Reply to aheaton@ntlworld.com .



One Direction of Development: Social Media

As explained above, we need to think about new ways of promoting the interests of the amphibian and reptile group covering our two counties. The current LARN newsletter is a great way to summarise and disseminate information about the activities of the group to members. To increase the availability of information to potential new members and active volunteers involved in upcoming events, we are trying out a new Facebook group and Twitter page. This is not everyone's cup of tea and we will continue to circulate urgent updates via the email list and report activities through the newsletter so nobody misses out. If you want to check out our online presence you can find us here:

<https://www.facebook.com/groups/LeicsARN/>

<https://twitter.com/LeicsARN>

Please join, follow and share our posts and tweets to anyone in the county that may be keen on getting involved in future recording or practical conservation work. We encourage you to share your photos and experiences of herpetological recording and conservation work in the county. All Facebook posts will be mediated by an admin to prevent unwanted advertisements. I look forward to seeing and sharing your photographs and experiences!

Liz Morrison

Year of the Toad

The amphibian and reptile conservation charity Froglife announces the "Year of the Toad" campaign following a recent study by Froglife and partners from The University of Zurich in Switzerland which found that on average common toads have declined by 68% over the last 30 years in the UK. More on the campaign and the open access article can be found here: <http://www.froglife.org/what-you-can-do/yearofthetoad/>

This is a fantastic example of citizen science in action. Data for this study came from the work of volunteers working on toad patrols across the last 30 years. Each year in spring, toads migrate to breeding ponds and many have to cross roads in our increasingly developed landscape in order to do so. Toad patrollers erect temporary fencing during the spring migration and manually collect and move toads to their breeding ponds whilst recording the numbers moved.

In Leicestershire, records for 5 toad crossings are known, in Coleorton, Ashby Magna, Uppingham, Glenfield and Thurmaston (though I can't find any records of the Ashby Magna crossing on the national database). If any of you are aware of toad crossing sites in Leicestershire and Rutland, or if you would be available to help man a toad patrol next spring, please let us know. You can find out more about Toads on Roads here:

<http://www.froglife.org/what-we-do/toads-on-roads/> Sadly the national project is currently unfunded and the onus is on local volunteers to organise themselves, so please do get in touch with me directly if you are interested, so that we can coordinate a good local effort in Leicestershire and Rutland. Liz.morrison@froglife.org

Another Python in Leicester!

This is an addition to the astonishing "pythons in the Soar" story in a previous issue (No. 27) of the LARN newsletter. To continuing amazement, yet another dead python was pulled out of the Soar, at much the same part of the city, south of Middleton Road Bridge, in May 2016, reports Helen O'Brien.

Castle Hill Country Park

Froglife have successfully bid for funding from the Tesco Bags of Help Scheme to carry out a range of habitat improvements for the benefit of people and wildlife on the Castle Hill Country Park (between Anstey and Beaumont Leys), in partnership with Leicestershire County Council. The funding is tiered and shoppers can vote for their favourite project. We are guaranteed to secure a minimum amount to fund a series of small pond restoration and creation works and floodplain meadow creation to benefit amphibians and other wildlife. With additional funding, as either second runners up or winners, we can go on to carry out some additional improvements to woodland glades, ditches and a monastic fish pond.

Voting takes place 31st October - 13th of November in stores in and around the Beaumont Leys, Anstey, Thurmaston and Cropston area. Please spread the word and vote for this project. We should have notification of the final grant before the end of the year so watch this space for opportunities to get involved. This is a great opportunity to get more Leicestershire residents interested and involved in practical amphibian and reptile conservation and we will be looking to involve schools and community groups as much as possible. If you are interested in getting involved please do get in touch.

Liz Morrison

Notes from the Wildlife Trust

Leicestershire and Rutland Wildlife Trust, which celebrates its 60th anniversary this year, has had a number of relevant articles in its last couple of issues of "Wildlife News". The Autumn 2016 issue has a very comprehensive article on grass snakes by conservation officer Chris Hill. There is also news of two new nature reserves. Fox Meadows, Lubenham, appears little known, and there is a need to survey the site for (most likely) the presence of amphibians. The other "new" site is Tom Long's Meadow, Quorn, which has been under the Trust's eye for a long time. It was once noted for its large frog population, but numbers seem to have gone down recently, and there is a need to consider the appropriate management of the site.

The Trust has published edition no. 12 (2016) in the excellent series of L&R Recorder Journals. It has, as ever, a wide range of articles, on subjects ranging from centipedes to water voles. In the field of herpetofauna, this includes notes on reptile surveys at Bradgate Park and Ketton Quarry, details of archived amphibian records (1940-70s) held at LRERC, and brief updates on amphibians and reptiles in the two counties.

Herps Works at Bradgate Park

Work to be undertaken at Bradgate Park to benefit amphibians was mentioned in newsletter no. 26. This update stems from a conversation between LARN and the Bradgate staff where it was suggested that there was a need to know what amphibian habitat was already in place on the park, to determine if there is a need to create new habitat. This discussion led to the commencement of a pond survey project with a group of four volunteers. They are cataloguing possible breeding ponds by walking the park and determining GPS positions, with a view to categorising them according to their size, vegetation coverage, etc – basically, everything on the standard pond record sheets that are available. The four volunteers want to see this through to eventually doing night surveys for newts next spring. It's early stages but as you can imagine, organising such surveys can be a little tricky – there is plenty of other work to be done around the Park.

Any interest and help would be very welcome (a deal of interest is being shown already). Contact details: if people want to be involved, please use the Rangers email, FAO Mat Bateman. -

rangers@bradgatepark.org

Moor Frogs?

According to the LHSG newsletter for 1966 (reporting on herpetofauna issues for 1965 – see LARN no. 27), the European Moor Frog (*Rana arvalis*) was recorded as successfully spawning in a ditch in Leicester University Botanic Gardens in that year. These alien frogs had accidentally got into the ditch a few years ago (it was not said how), since when they had declined in number. The identification as Moor Frog was not certain at the time.

There may be some confusion over this record. The Moor Frog is a species which has rarely (if ever) cropped up in Britain. The only non-native amphibians present at Leicester University grounds in recent years which have been identified are Alpine Newts, a minor problem compared with the threat of alien frogs establishing populations here.

Non-native frogs at Lakeview Fishery near Melton have likewise been tentatively identified as Moor Frogs - but Marsh Frogs, another non-native species, have also been noted there, and the latter seems more likely as being more recent and a firmer identification. Whatever, an established population of alien frogs in the county is certainly worrying. Any information (photographs, etc) which anyone has on either of the sites, which would help to clarify matters, would be very welcome.



Importance of Wildlife Trust Reserves for Conservation of Herps

The LRWT has been looking at the significance of its reserves for conservation of species in the two counties. Papers have been prepared for a number of taxonomic groups, indicating the extent to which the species found in L&R are actually occurring on the 33 Wildlife Trust nature reserves. The herpetofauna paper, drafted by LARN, gives the following information:

The headline finding is that all the native amphibians and reptiles found in Leicestershire and Rutland are present on Trust reserves. The total number of herpetofauna species currently present in L&R is 13 (8 amphibians and 5 reptiles). Of this number, the native species comprise 9 (5 amphibians and 4 reptiles), the rest being introduced species (only one of which, red-eared terrapin, seems to be present on Trust reserves).

Some older, unconfirmed records confuse the picture, but it is clear that all 9 native species are found on WT nature reserves, so LRWT is conserving the full range of native species to be found in the two counties. This relates only to presence on sites; further work is needed to determine whether these species are actually breeding on the reserves. Confirmation of breeding can be determined by the presence of amphibian spawn/eggs, tadpoles, grass snake eggs, juvenile reptiles.

The commonest species on WT reserves are Common Frog, found at 26 sites, followed by Grass Snake, Smooth Newt and Common Toad, each found on 18 reserves.

The species least well represented is palmate newt, with only one reserve certainly occupied (Charnwood Lodge), and possibly 2 others in the past (Holwell, Lucas Marsh). There is also only one reserve currently supporting adders (Ketton Quarry), and possibly one other in the past (Holwell). The slow-worm is also vulnerable, with only three sites (Merrys Meadows, Rutland Water, Ulverscroft).

Of the 33 reserves, those with most diverse populations of native herpetofauna species are Rutland Water, Charnwood Lodge (and possibly Lucas Marsh) with 6 species each; Merrys Meadows has 5 species, and Holwell has 4 species definitely (and possibly as many as 7, from old records).

At the other extreme, just two reserves have no amphibians nor reptiles recorded (Fox Meadow, a new reserve yet to be thoroughly surveyed, and Rocky Plantation, now considered a part of Ulverscroft). Several reserves have records of only one species: Ketton Fields, Mountsorrel and Rothley Marshes, Miles Piece, Lyddington Meadow, Stonesby Quarry.

The conclusion is that, across the whole suite of Wildlife Trust nature reserves, the full range of native amphibians and reptiles is conserved, though palmate newts and adders have only a weak hold on the Trust estate, both species requiring special consideration as to management needs on the reserves where they are present.

Palmates away from Charnwood

The Palmate Newt, with its natural distribution concentrated in the northern and western “upland” parts of Britain, is often thought of as a typical species of Charnwood Forest, the Forest being Leicestershire’s little bit of upland habitat transplanted into the lowland Midlands. There are rather few positive records of Palmates in Leicestershire (and none at all in Rutland), but of those that have been noted, around 10 sites are from areas that are not always regarded as being within the Forest boundaries. This depends, of course, on the definition of Charnwood Forest, a patch which has been variously defined over the years. It is probably best to take the definition from the excellent book “Charnwood Forest: A changing landscape”, published by Loughborough Naturalists Club in 1981. By this definition (identifying ecological survey areas in the Forest), the following Palmate Newt sites would fall outside the Forest

Sites with Palmate Newts which are outside Charnwood Forest: Grid Ref:

Markfield	SK465100
Whitwick Pool	SK443159
Nailston Colliery	SK427085
Chaveney Road, Quorn	SK553161
Quorn	SK559169
New Lount	SK399184
Holwell Mouth	SK741234
Great Bowden Borrow Pit	SP743898

(White Hill (SK482117) and Stinking Wood at Markfield (SK499108) are close to the edge but probably just within the Forest)

Can anyone think of any features linking these sites – water chemistry, microclimate, management? – which may make them Palmate Newt sites, away from the physical conditions of the Forest “uplands”? (Note: some grid refs may be inaccurate, and some sites may indeed be in Charnwood Forest, ecologically).

Victoria County History of Rutland

For years I have been using the natural history information in the Victoria County History of Leicestershire (published 1907) as a baseline of herpetofauna populations in the early 20th century – forgetting/not realising that there was a separate VCH for Rutland, published in 1908. The section - just one page – on Reptiles and Batrachians (it uses the old name for amphibians) gives the status of herpetofauna species in Rutland around the turn of the century as:

Grass Snake – common

Viper or Adder –in the southern part of the county, not common

Common Lizard – seldom seen near Uppingham, commoner near Ketton and probably elsewhere in the county

Sand Lizard – not been recorded but probably occurs
Blind-worm (Slow-worm) – sparingly distributed
Great Crested Newt – fairly common in all the pools and ponds
Common Newt – very common everywhere
Palmate Newt – no records – perhaps confused with common newt.

The section on Reptiles and Batrachians does not have an author's name against it, and is edited by William Page, who edited the whole volume 1 of VCH Rutland. (The equivalent section in VCH Leics is by Maurice Browne, a known naturalist). The Rutland herps section is rather dismissive of its own subject! It begins "The list of reptiles and batrachians to be found in Rutland is an extremely meagre one. ... herpetology is not a science that would find any great scope in this county".

The assumption that sand lizards were probably present is an interesting one, and may say something about the distribution of the species as a whole, across the country, at that time. The identification of palmate newt (even if not actually present) is also interesting, in distinguishing it as a separate species from common newt – the Leicestershire VCH, written only a year earlier, does not make that distinction.

New Field Guide

A new field guide has been published by Bloomsbury. "Field Guide to the Amphibians and Reptiles of Britain and Europe" by Speybroek, Beukema, Bok and Van de Voortl is certainly an excellent reference if you are exploring the herpetofauna of the whole of the European continent. It provides a useful perspective on our collection of a dozen native amphibians and reptiles, providing, as it does, details of 219 European species; our feeble collection gets a little lost in the mass of information in the book. Recommended if you are looking to Europe as a source of inspiration!

The next LARN newsletter will carry a short bibliography of amphibian and reptile books.

Referendum

Now that the crazy result of the pointless referendum has come through, the implications of a vote to leave Europe are becoming clearer. Matters of concern are especially as follows.

- What protection will remain for the European Protected Species, such as the Great Crested Newt?
- What protection will continue to be given to sites recognised under the Habitats Directive and the Birds Directive, including wetlands such as the River Mease and Rutland Water?
- What will happen to agri-environment grants - will these be at similar levels to the EU scheme, and what proportion will be given over to environmental improvements or maintenance?

Don't expect any answers soon, but watch this space!

Adder Meeting

A national adder meeting took place on 8-9 October, near Cheddar. It was to address all aspects of adder conservation – there is much concern about the status of the adder, especially in the Midlands, where populations are few and small. There was no official Leicestershire representation, but we submitted information beforehand on L&R adder populations (Bradgate, Ketton, a few other possibilities), which are certainly under pressure. A write-up of the “Vanishing Vipers” conference is given at:

<http://www.arguk.org/get-involved/news/the-vanishing-viper-priorities-for-adder-conservation-2>

STOP PRESS: LARN members are invited to what should be a fascinating evening – a meeting of our sister organisation, WART (Warwickshire Amphibian and Reptile Team), to be held on Thursday 19 January 2017, 7.30 pm at Brandon Marsh Nature Centre, Coventry CV3 3GW (the Warks Wildlife Trust HQ, on the SE side of Coventry, near the A45/A46 junction). Nigel Hands, an adder expert from Herefordshire Amphibian & Reptile Group, will speak on “Vanishing Vipers: Tracking Adders” – using radio-telemetry to monitor adder movements, work featured in BBC Wildlife Magazine, July 2016. No charge (but donations welcome).

Nevill Holt

A potential record of Great Crested Newt has been submitted from the Nevill Holt area, NE of Market Harborough (SP8193). There appear to be several ponds around Nevill Holt village. I have no previous records of GCN from this site – though these protected newts are scattered sparingly around the SP89 grid square, at Medbourne, Uppingham and Lyddington. Does anyone have records (or photos) of GCN from Nevill Holt which can confirm this latest submission? Better still, would anyone like to visit the Nevill Holt ponds next spring to get confirmation of any amphibians present and/or breeding? (There may already be one volunteer, so you could link up to make a small group for the survey work – always a good idea). If anyone is interested, please contact me (AH).

From examining the local OS map, there looks to be quite good newt habitat in the area. A grouping of ponds at Nevill Holt provides refuges from catastrophic events affecting any one pond. As well as the potential breeding ponds, the amount of woodlands patches would imply reasonably good terrestrial habitat for the foraging newts.

Lost Members

Every time a LARN message is sent out by email, an ever greater number of “undelivered messages” warnings come back, meaning people are not getting their newsletter. The following people were LARN members but their emails apparently no longer operate, so we have lost contact. If you know any of these people, please urge them to make contact with me (AH) if they are still interested in LARN:

James Whiteford; Katherine Breslin; Andy Bird; Jack Riggall; Anthony Onions; Marcos Gambero Vela; Victoria Robinson; “cataraxic. Tech”.

LARN Questionnaire

A few months ago, a questionnaire was sent round to LARN members. 50 addresses were circulated with the questions, and 20 replies were received – not a bad rate of return! Answers came from around our two counties (see Q1), concentrated in Leicestershire with apparently very little representation in Rutland (something to do with the name “LARN”? – needs changing to LRARN?!) There are noticeable gaps in the areas of Melton, the south (Hinckley-Market Harborough) and the NW tip (Castle Donington). Perhaps not surprisingly, these are the same gaps that you see in any distribution map of L&R for any taxon (probably due to lack of recorders rather than lack of organisms).

Questions were asked about surveys carried out, GCN licences and running events. Responses were as follows:

Q1. – (Which part of the two counties do you come from?).
(See above)

Q2. – Do you survey amphibians or reptiles?
Survey both amphibians and reptiles – 12
Amphibians only – 1
Reptiles only – 0
Neither – 4

Q3. Are your surveys planned (rather than casual/opportunistic)?
Surveys planned (for amphibians) – 1
Surveys planned (for reptiles) – 6
Both – 6
Neither – 3

Q4. Do you have a specific GCN licence
Yes – 2
No – 15

Q5. Would you be willing to lead events concerning amphibians and reptiles, intended for adults and/or children?
Yes, adults – 1
Yes, children – 1
Both – 5
Neither – 9

Conclusions – There is quite a high level of activity within membership – but it could be better (by admission of several replies). Only to have two members with GCN licences (though at least two others are known in the county) seems worryingly low, with implications for maintaining a comprehensive record of sites for this legally protected species.

HWM

The annual Herpetofauna Workers Meeting, the main amphibian /reptile get-together in the UK, is always worth attending. It has just been announced that the next HWM is to be held in central Nottingham (exact venue not yet confirmed) on 11-12th February 2017. Given its close proximity, there really ought to be a strong turn-out from Leicestershire and Rutland. Further details will be available on the ARC website:

<http://www.arc-trust.org/>



Tail Piece

The following are collective names for various amphibians and reptiles.
Are you aware of any more?

A Colony of Frogs

A Knot of Toads

A Den of Snakes

A Nest of Vipers/Adders

-0-

Leicestershire Amphibian and Reptile Network (LARN) is an informal grouping of people interested in the status and distribution of these two lower vertebrate groups in Leicestershire and Rutland. The group is held together by a newsletter produced on an irregular basis – generally twice a year. The aims of the group are to encourage recording of herpetofauna in the two counties, and to use this data to support conservation initiatives. Anyone wanting to join the group should contact the coordinator, Andrew Heaton, as below.

If you have any news for the next edition of this newsletter, do let me know.

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