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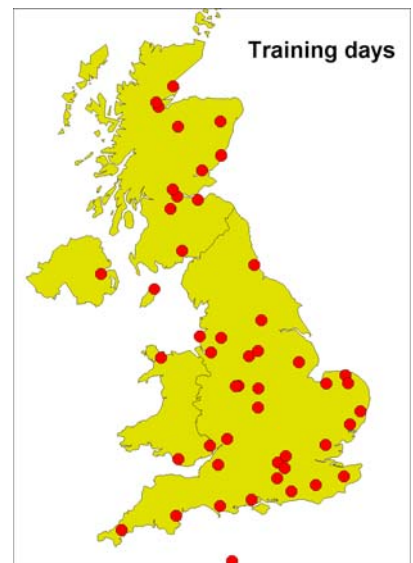
NARRS 2007
Interim Summary Report



The National Amphibian and Reptile Recording Scheme (NARRS) is coordinated by The Herpetological Conservation Trust (The HCT) in partnership with the Amphibian and Reptile Groups of the UK (ARG UK) and many other partners. Through volunteer-based surveys, we aim to monitor the conservation status of all UK amphibian and reptile species. The HCT already coordinates monitoring programmes for the rare species and the adder, but with growing concern that even our most widespread amphibian and reptile species are in national decline, we need to monitor them.

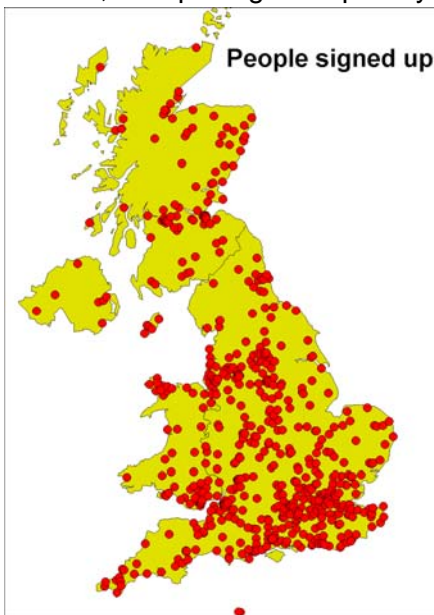
So in 2007 we launched the **National Amphibian Survey** and the **National Reptile Survey**. These are aimed at measuring trends in the conservation status of all the widespread amphibian and reptile species. The roll-out of these new surveys was the culmination of several years of planning and consultation with many organisations and people. Much of the funding came from Esmée Fairbairn foundation, with some from Natural England and Countryside Council for Wales.

With the NARRS website (www.narrs.org.uk) up and running, over 1,000 people registered online to take part. We produced survey packs and training materials, and organised 52 training days across the UK with the help of many voluntary trainers. Up to 1,000 people were trained in survey amphibian and reptile identification, ecology, survey and assessment techniques. Attendees were licensed where relevant, by accreditation to The HCT's rare species licences, and had to register online to receive a survey square. Training materials and survey packs were also available to download.



Survey square allocation

We generated a random selection of 1km survey squares across the UK, comprising 400 priority 'blue' squares, evenly distributed across all Vice Counties (to

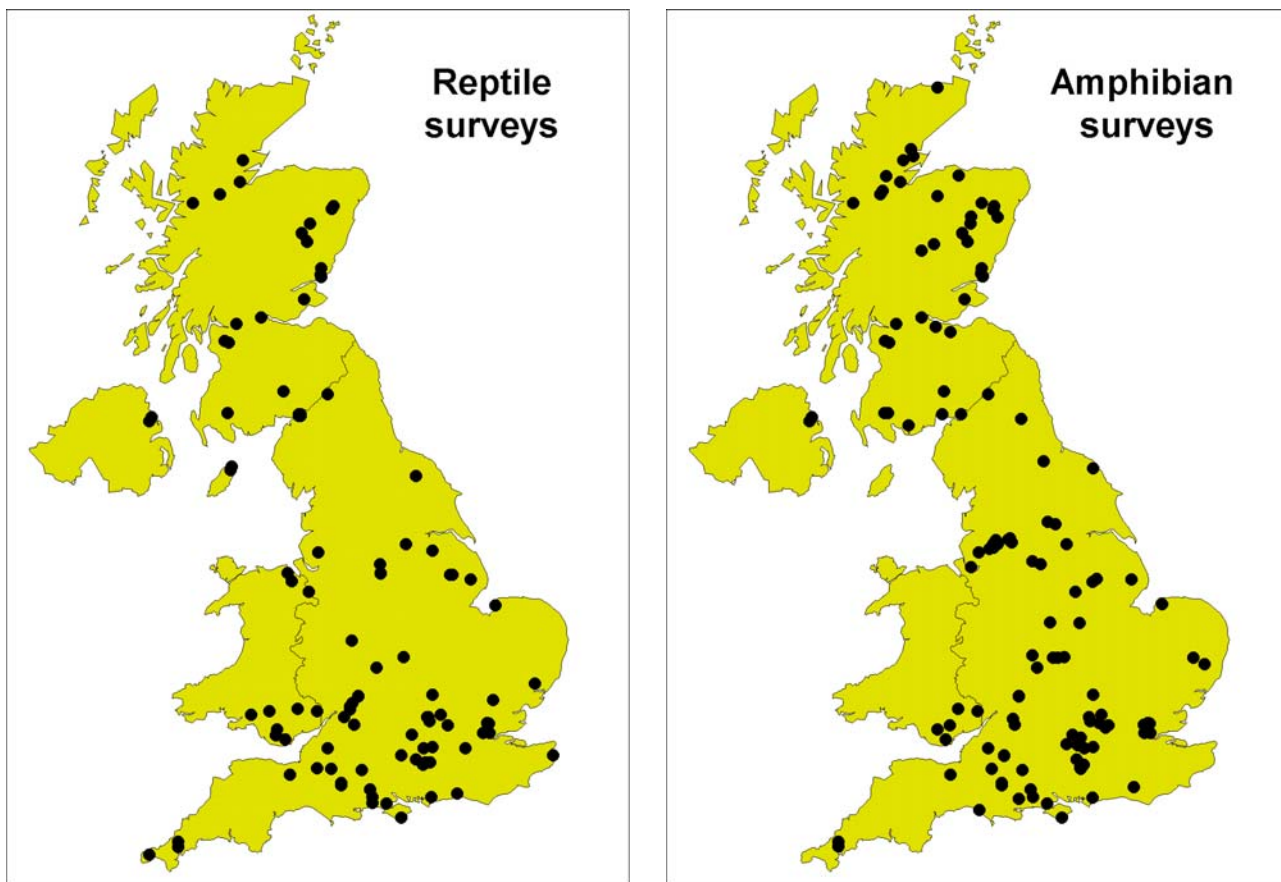


minimise bias), plus more numerous lower priority 'red' squares. About 500 people requested a survey square. Inevitably these are biased towards where people live, but there is also a chance that people were biased towards favourable squares. We therefore plan to revise the selection system next year. People will be able to repeat or complete the survey of their current squares or seek new ones, but any new squares will probably be randomly selected according to surveyors' postcodes, rather than choosing squares themselves.

We didn't expect results from all the 500 people who were allocated a survey square, but we hoped to exceed 100 squares. Fortunately, we have received results from about 150 amphibian and 110 reptile surveys (13% of people surveyed non-NARRS squares, which may make them ineligible for some of the analysis). We have begun analysing the results, and will continue over the winter, but we present a brief summary of results here.

Most people carried out the amphibian survey and the reptile survey on their square, but some people only did one or the other, hence the total number of squares surveyed is 186. This comprises 62 blue (priority) squares, 101 red squares (and 23 squares that were not allocated by us). Therefore, of the 163 official squares, 38% were blue and 62% were red. Given that this is the first year of these new NARRS surveys, and the number of squares surveyed will hopefully grow each year, we are optimistic about the future of NARRS. Although we will never reach the number of sites surveyed in national bird surveys, we are already approaching the numbers of sites surveyed in the National Bat Monitoring Programme for example.

Most people surveyed one square, but some took on the admirable task of surveying multiple squares. Fourteen people did two squares, one person did six, one person seven, and one person an incredible thirteen squares. Andy Riches (Dumfriesshire), Seonag Robertson (Aberdeenshire) and Peter West (Essex) deserve special thanks for their impressive achievements. The maps below show the geographical locations of squares surveyed for reptile and/or amphibians. Certainly their wide distribution across the whole UK is impressive. It is particularly encouraging to see so many surveys in Scotland, Wales, Northern Ireland and the Isle of Man where there have traditionally been fewer or no ARGs. (It does seem that most surveyors are not ARG members).



Reptile results

A total of 103 squares were surveyed with at least one visit, and a further six were assessed but not surveyed. The mean number of visits was 2.55 (range 1 to 20). Reptiles were detected in 55 squares, which is an incredible hit rate of 53%. This seems very high and probably hides some bias in the squares surveyed. For example, we will need to examine whether there was a deliberate bias towards squares perceived as likely to support reptiles, and a higher drop-out rate (failure to survey allocated square) for poorer squares. The following table summarises the number of squares in which each species was detected, and gives a percentage 'occupancy rate' at the 1km square level.

	Common lizard	Slow-worm	Grass snake	Adder
Number of squares	28	22	21	8
Occupancy rate (%)	27	21	20	8

Amphibian results

A total of 142 squares were surveyed with at least one visit, and a further nine were assessed but not surveyed. Most people surveyed one pond as requested, but a few surveyed two or more ponds in their square. The mean number of visits was 1.91 (range 1 to 7). Amphibians were detected in 107 squares (75%). Again, this may be biased and not truly representative of the UK's landscape, but the risk of bias should be lower than for the reptile survey. The protocol for selecting a pond within the square should have helped prevent people choosing a 'nice' pond, for example. The following table gives the number of squares where each species was found, and pond occupancy rates overall.

NARRS 2007	Common frog	Common toad	Marsh frog	Great crested newt	Smooth newt	Palmate newt	Smooth or palmate newt
Number of squares	80	30	1	12	30	43	11
Pond occupancy rate (%)	56	21	1	8	21	30	8

For interest, although not strictly comparable, the next table compares our pond occupancy rates with those from Swan and Oldham's data from 97 blanket surveys in the early 1990s (Swan, M.J.S. & Oldham, R.S. 1993. *Herpetile sites volume 1: national amphibian survey final report*. English Nature Research Report 38, Peterborough).

	Common frog	Common toad	Great crested newt	Smooth newt	Palmate newt
Pond occupancy rate (%) NARRS 2007	56	21	8	21	30
Pond occupancy rate (%) Swan & Oldham 1993	52	30	11	22	11

For common frog and smooth newt, our results are similar to those of Swan and Oldham. For great crested newt, our occupancy rate is proportionally much lower than theirs. Our common toad occupancy is also much lower than Swan and Oldham's. The biggest difference is for palmate newt: our data give a 30% occupancy rate, compared to only 11% for Swan and Oldham. Before reading anything into this, we should apply caveats, as our sample selection and survey methods are not comparable with theirs.

Practicalities

Overall, we think the practicalities of the surveys went quite well. The survey forms look quite complicated to fill in, and need some amendments, but we haven't had any major issues other than insufficient space for notes. We will seek to make improvements to methods and protocols where necessary, and may consult surveyors over the winter, but the results speak for themselves.

Given that over half the reptile surveyors actually detected reptiles, we get the impression that the training and/or the procedures are working reasonably well. Some people used lots of refugia, others did not, and it seems sensible to allow this flexibility. (We haven't compared detection with and without refugia, but this is obviously on the 'to-do' list).

Many surveyors felt that their results did not reflect all the species occurring in their survey square, perhaps because there was too much ground to cover, or they had missed the breeding season. It is likely that we will miss some amphibians present in any 1km square, because we only asked people to survey one pond, however poor. For reptiles, detection is difficult at the best of times, especially if they are scarce. Lots of people reported that undetected species were, rather frustratingly, seen in neighbouring squares, or that landowners knew that species used to be present. Unfortunately, to ensure random sampling we cannot include such observations in the current analysis of status, but we will endeavour to seek ways of making the most of such information.

The amphibian survey involved surveying only one pond, which is also something we may review. Blanket surveys of all ponds within a square or a radius would give more detailed local information, and may generate a greater overall volume of data. We don't want to put people off by insisting they survey multiple ponds, but we are wondering whether it might actually be popular if we give people the option to do so, especially having gone to the trouble of seeking permissions and travelling to site. We also realise it is frustrating to have drawn a blank in terms of results, and have that 'don't want to go home yet' feeling!

Almost half of surveyors (86) submitted their results online; the rest (100) submitted hard copy. We realise there was insufficient space on either format to write notes and comments. Many people had additional information that they wished to submit, which they sent by email or, in some cases, as a comprehensive report. All of these are useful and much appreciated. We need to tighten up the administration of square allocation and training courses next year, as some people didn't realise they had to register online and were apparently awaiting contact after attending a training event.

There were some amusing and interesting anecdotes among the results received, and stories ranged from encounters with eccentric landowners to torchlight surveys being aborted while the police stalk some poachers!

Landowner permissions

An issue that cropped up a lot this year was landowner permissions. We knew this would be a tricky issue but we hoped it wouldn't make the surveys unworkable. It is not practical for us to identify and contact landowners centrally, and it is too much to ask individual coordinators at present, so we have to delegate it to surveyors. It is also generally easier for someone with local knowledge to identify and meet landowners.

We did try to give tips about finding and contacting landowners, and in most cases it seems the best advice is to ask around and knock doors locally. The internet can also be a good place to identify landowners and their contact details. The consensus among experienced surveyors is that most landowners will readily give permission to carry out a survey on their land, but there are always some who will refuse point-blank or be obstructive.

Judging by emails from potential NARRS surveyors this year, failure to obtain landowner permission was a significant reason for not surveying a square that had been allocated, although not the biggest. (Work and family commitments were more frequently cited). Problems with landowner permission were also reported by some people who managed to do their surveys.

Many surveyors found landowners more than happy to cooperate, and enthusiastic to know the results. Permission was quick and easy to obtain for the lucky ones (sometimes an immediate verbal 'yes'), but proved a bit more long-winded for some. Those of us south of the Border will be envious of surveyors in Scotland where the law allows you to carry out simple biological surveys without permission. Obviously it is still courteous to seek permission, but it would make life a lot easier in the awkward cases.

NARRS in 2008

Thus far, we have managed to run NARRS on something of a shoestring. We have relatively little external funding, and The HCT is funding the majority of the project. We are reluctant to give up on any of the essential ingredients such as free training events for all, but we do have to constantly review the situation. One issue of concern is that NARRS training days may be viewed by some as free professional training, especially for the consultancy business. We have no objection to this if such course participants seriously intend to take part in surveys, but with courses often over-subscribed we need people to be honest about their intentions. Moreover, course participants should be aware that NARRS training content is different to that of the professional training that The HCT provides, and is not a substitute for it.

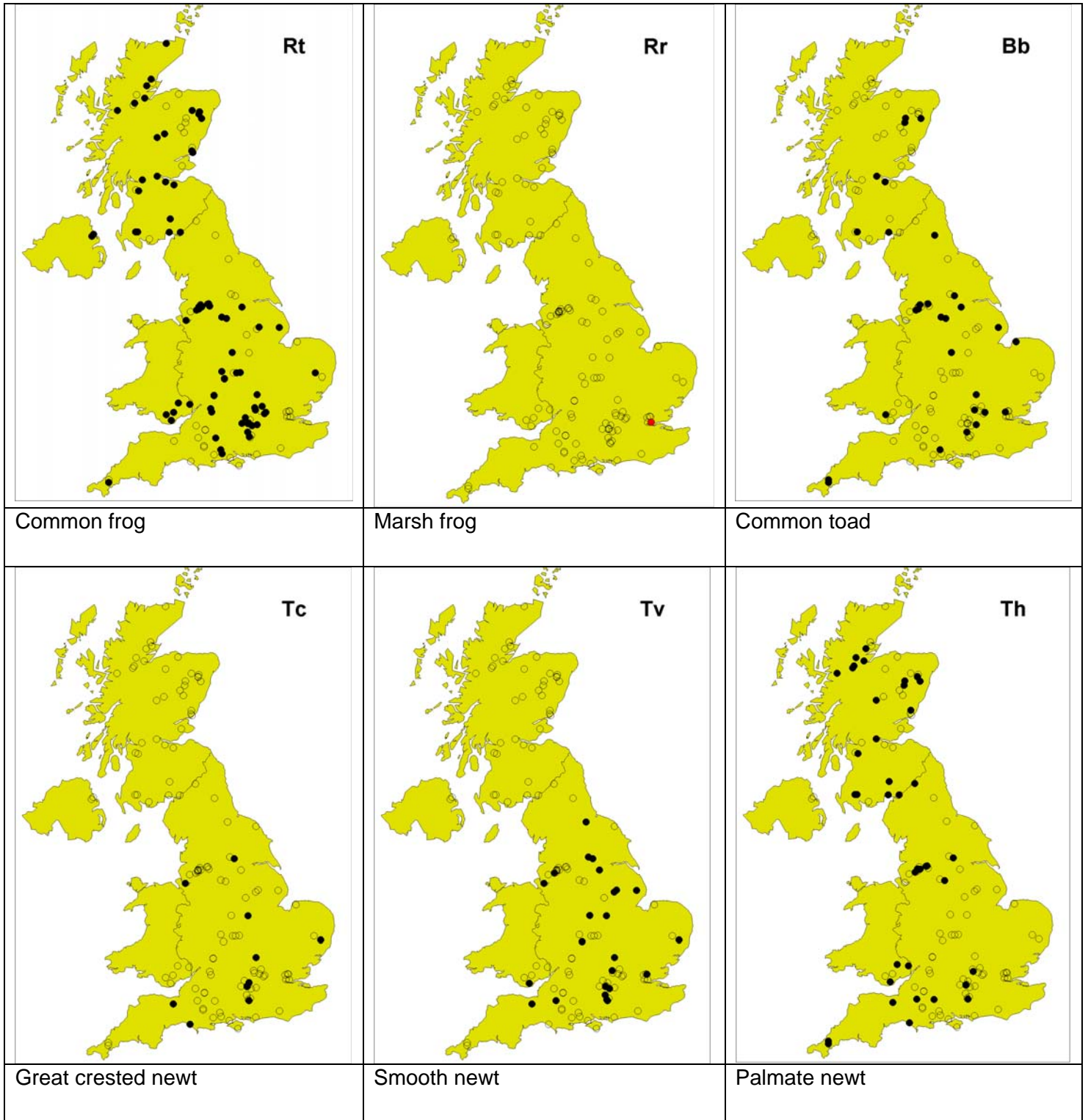
In summary, the volume of results from the 2007 season is heartening, but we must apply various caveats before reading any more into them. It may be tempting to take them at face value as indicators of amphibian and reptile status today, but the data almost certainly hide biases that we need to account for. Our more detailed analyses will also attempt to calculate detectability, using the environmental, effort-related and habitat variables. This will help us to 'calibrate' field results, and enable us to ensure consistency year on year.

Once again, we would like to thank all of the volunteers who took part in 2007, and even those who wanted to but were unable to. We look forward to working with you in 2008.

For more information about NARRS, contact Chris Gleed-Owen chris.go@herpconstrust.org.uk or visit www.narrs.org.uk, where you can register to take part.

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Appendix 1 - Amphibian squares surveyed and species detected



Appendix 2 - Reptile squares surveyed and species detected

