



National Amphibian and Reptile Recording Scheme Widespread Reptile Survey

2006 pilot – stage 2

Introduction

Thank you for helping us to pilot widespread reptile survey as part of NARRS - the National Amphibian and Reptile Recording Scheme. The aims of NARRS are to set up monitoring programmes for all herpetofauna species in the UK, that will allow robust assessment of their status and prospects at national, regional and local levels, and to raise awareness of herpetofauna by engaging the general public in a wider tier of recording campaigns. NARRS is coordinated by The Herpetological Conservation Trust and involves a broad partnership of organisations including the Amphibian and Reptile Groups of the UK (www.arg-uk.org.uk), the statutory nature conservation agencies, local records centres, NGOs, government and others. We aim to begin fieldwork in 2007, at a large sample of sites including randomly selected 1km squares and local nature reserves. The monitoring programmes will involve robust protocols and sampling design, volunteer training and support, and wide dissemination of results. Following on from stage 1 (site assessment), this document sets out the instructions for stage 2 (reptile survey).

Pilot surveys – stage 1

This first stage of the 2006 pilot exercise aimed to explore some practical and logistical aspects of survey design, such as:

- Logistics of survey visits,
- Identifying reptile habitat,
- Obtaining permissions,
- Suitability for refugia.

We invited people with reptile ecology and survey experience to assess a 1km square that we randomly selected within about 10km of their post code. We had a good response, and thirty people were given 35 squares to assess and fill in a questionnaire. Thank you to the surveyors who have returned questionnaires and other reports (10); the feedback has been extremely useful so far, and we appreciate your views and observations. *If you have not sent in your questionnaire yet, please do so if you can. If you have yet to survey your square it is not too late; and if you want to get involved now, please let me know (Chris Gleed-Owen chris.go@herpconstrust.org.uk, 01202 391319, 07810 770560). The pilot will continue throughout the summer and we need more participants.*

Pilot surveys – stage 2 – instructions and trial protocols

Participants who took part in stage 1 (site assessment) are welcome to take part in stage 2 – the actual reptile survey. There is no obligation, but we hope that some of you can spare time for a few more visits to your square this year. Once we have received completed stage 1 questionnaires, surveyors can continue onto stage 2, following the protocols given here (note these are for trial purposes and may change in due course). The pilot will effectively end in October 2006, but please feed in results sooner if you complete it earlier.

Stage 2 will involve:

- Mapping areas of good reptile habitat
- Choosing representative areas ('key areas') in which to lay refugia
- Seeking landowner permissions to a) lay refugia and b) carry out repeat survey visits
- Procuring Onduline and/or roofing felt
- Laying 20-40 refugia, spread evenly in all 'key areas'
- Mapping the refugia locations and your chosen route
- Carrying out repeat visits in suitable conditions over summer and autumn 2006
- Keeping records of visits and reptile results
- Feeding back to the NARRS project and to landowners etc
- Removing the refugia

Mapping reptile habitat

Please map all areas you have identified as good reptile habitat on a map of your 1km square, either in hard copy or digital format. To obtain an appropriate map, we suggest using www.maps.google.co.uk, www.multimap.com, www.streetmap.co.uk, www.magic.gov.uk, OS Landranger (or larger scale) maps, GIS, or your own source of map. Note that the aerial photography/satellite imagery facility on some websites is very useful, but coverage is not as good everywhere in the country. You will need to provide us with a copy of your map in due course, so please pay attention to any copyright conditions. We anticipate mapping being available digitally online for NARRS purposes in due course, but for the current exercise we have to rely on other sources.

Choosing key areas

Please plan your distribution of refugia, bearing in mind the quality of habitat, logistics of checking them, security from livestock and public disturbance, and any anticipated landowner problems. Refugia should be distributed as evenly as possible across all key areas, in such a way that they can be checked on a fixed route.

Seek landowner permissions

If you have not done so already, please identify relevant landowners for the areas you intend to lay refugia (or survey visually in), and seek permission to lay refugia. Try whatever means you think are appropriate, approach landowners with a friendly manner, explain what the survey is for, show them the attached letter, and reassure them that there is nothing to worry about. Many landowners are worried about discovery of protected species on their land, so try to allay any concerns by putting across positive messages. For example, you could say that if reptiles are present, the landowner/manager must be doing something right; this is a national survey, and no one will be singled out as bad land managers. Offer to keep landowners posted, and you might even ask them to join you on a survey. It may help to let them know that this is a one-off survey (full roll-out of NARRS will probably survey different squares each year too). If you are unable to obtain permissions to survey 80% or more of your identified key areas, please record this fact. We would probably normally propose cancellation of survey in that square at this stage, but for the purposes of this pilot, you can continue if you wish as we would be interested to see the results of any survey that was hampered in this way.

Procuring refugia materials

We propose trialling both Onduline and roofing felt. Surveyors may choose whether to use either or both. Ideally we would like surveyors to try both, as this allows us to compare effectiveness within each 1km square. Roofing felt comes in a roll (dimensions 8x1m), and can be bought from B&Q, Homebase, Wickes and other DIY stores. Onduline comes in corrugated sheets (dimensions 2x1m), and can be obtained from most DIY stores and building supplies merchants. Choose black rather than red, brown or green. You will need to cut up roofing felt into rectangles/squares of desired size (we suggest 50x50cm to 1x1m) using a sharp craft knife. To cut Onduline up safely into even squares, you will need to use a jigsaw or similar power tool. We propose using 20-40 refugia per 1km square in the pilot, but surveyors may use more if they wish to do so. We can refund the costs of the refugia materials for a limited number of pilot survey participants. If you

have submitted a stage 1 questionnaire, and wish to continue with stage 2, we can refund the cost of refugia if you send us your receipt(s).

If you are not already involved in the pilot, but wish to start now, you can still request a survey square and do the stage 1 visit and questionnaire. We will fund refugia for as many stage 2 surveys as we can, but please check with me first (chris.go@herpconstrust.org.uk).

Laying refugia

Lay 20-40 refugia according to your plan (note that this may not be the number eventually used in NARRS), spread evenly in all key areas, and easily accessible from your fixed survey route. Make sure all refugia are well away from any livestock disturbance (livestock can kill reptiles by treading on refugia, and cows sometimes eat felt or Onduline). Make sure they are positioned away from public view, particularly near public footpaths. They should be well out of sight, and if you think there is a significant risk of people (especially children) finding them, you should not lay them. Press the refugia down flat, as close to the ground as possible. Choose dense vegetation cover, particularly changes in vegetation structure and height; avoid bare open ground or short-cropped vegetation, except on the margins of denser vegetation (provided it will be out of view). Onduline and felt refugia could be placed in pairs at the same location in this exercise, to try and demonstrate any differences in effectiveness. However, reptiles showing a preference when given a choice, might still use the other material if they have no choice, so it would also be useful to lay some singly. This might be achieved with 40 refugia is 10 pairs of Onduline/roofing felt, 10 single Onduline, 10 single roofing felt (requiring 3 sheets of Onduline, 1-2 sheets of roofing felt, total cost about £50). Alternatively, with 20 refugia: 5 pairs, 5 single Onduline, 5 single felt (1-2 sheets Onduline, 1 roll felt, total cost £20-30).

Map your refugia locations and survey route

Using your map of reptile habitat within your square, please mark on all the refugia locations, number them and mark on your chosen route. The route should be between 3-4 km long. If circumstances dictate, it may be broken into sections, but it should ideally be a continuous route.

Carry out survey visits

Your survey visit should last between 2-3 hours, and follow your fixed route of 3-4 km. You may deviate from your route by up to 20m either side, in order to search for reptiles visually. Each survey visit should aim to coincide with conditions that maximise the chances of detecting reptiles. (Normally, we would target survey to the spring when reptiles are most detectable, but obviously this pilot must take place over the summer and autumn). During sunny days in the summer, survey 'windows' are usually between 0800-1100 or 1600-2000 before air and refugia temperatures get too hot; but in cloudy or overcast weather any time of day can be suitable for survey. In shorter, cooler days of spring and autumn, reptiles are best surveyed later in the morning/earlier in the afternoon. As a guide, reptiles are most easily detected when air temperature is roughly 10-20°C, but can be found in cooler or warmer conditions depending on season and preceding weather patterns. Their behaviour is strongly governed by a combination of current and previous weather conditions. Sunny weather after a spell of poor weather is a good time, as it tends to bring out larger numbers of reptiles. Sunshine immediately after a rain shower is ideal, especially if following a long dry hot period that may have kept reptiles under ground. Windy conditions are generally bad for visual searching, although vegetation can provide shelter to basking animals if the wind is from the opposite direction to the sun. Refugia may still be effective in wind, dull overcast conditions or even rain.

Refugia can be effective almost immediately, but they attract more reptiles the longer they are in place, and may not reach their peak effectiveness until they have been in place for a few months or years. However, for this pilot exercise, you may make as many visits as you like (starting as soon as you like), and we hope that all surveyors can make at least three visits over the course of the summer and autumn of 2006. The sooner refugia are laid, the sooner they can be surveyed.

Keep records of visits and reptile encounters

Keep a good record of the date, start/finish time, weather, and previous weather and all visits, and record all reptile encounters on a survey sheet. We will provide standard survey sheets soon (but

see standard HCT example attached for an idea of the parameters to record), or you may prefer to use a field notebook. Make sure that you record the refuge numbers, and any location notes (e.g. "10m SE of refuge 14"), species, sex if known, lifestage, and numbers of individuals. If you prefer, you can mark sightings on a map. Please note the nearest refuge for any visual sighting; for the analysis, visual sightings will be attributed spatially to the nearest refuge.

If you have a GPS, the coordinates would be useful if you could provide them, but we do not expect most surveyors to have one. Note that whilst typical handheld GPS units (e.g. Garmin eTrex) can be accurate to 1m when they receive a signal from a full compliment of 12 satellites, they have an inherent inaccuracy of up to 30m when fewer satellites are accessible (even if the screen claims an accuracy of 5m!).

Feedback to NARRS project and landowners

Once you have done as many field visits as you intend to do, please forward your data to us either as hard copy or digitally. If you wish to continue surveying into the autumn, please submit your data by the end of October 2006. Any earlier submission will be appreciated, and updates on progress will be welcome by email. We will also be interested in any feedback on practicalities and surveyors' preferences for recording methods. Note that submission of NARRS fieldwork data will be carried out online in due course, and survey sheets will be for the benefit of the surveyor in the field; hence if you have suggestions for recording field data, please let us know. Don't be afraid to share your findings and enthusiasm with landowners (assuming they are receptive); this can be a good way of engaging them and bringing them on side if they have any concerns. There is no substitute for showing somebody a snake or lizard at close quarters, particularly when they have never seen one before. Please be aware of any health and safety issues though.

Removing the refugia

Please remove all refugia at the end of the survey season (i.e. when you intend to do no more survey visits). We suggest that the refugia are donated to the relevant ARG, and stored for future use. If a landowner is particularly keen on continuing the survey, it might be worth considering leaving the refugia in place. It is essential to consider the potential for disturbance, however, especially if you do not intend to check them again very often.

Health & safety and insurance

Note that the HCT has funded personal accident insurance for ARG UK in 2006, and ARG UK already has its own public liability and member-to-member insurance cover. These policies cover all ARG members when taking part in any ARG activities (including NARRS pilots), provided their ARG has signed up to the scheme, and any members who wish to be insured have signed the ARG UK Volunteer Working Agreement (details available at www.arg-uk.org.uk). If you and your ARG are not yet signed up to the ARG UK insurance, please do so if you can.

If you are not able to do so (e.g. you are not an ARG member), the HCT should be able to cover you temporarily under its insurance, provided you are willing to abide by our health and safety, risk assessment and lone working policies, and you sign our Volunteer Working Agreement.

Alternatively, you may have your own personal insurance, or may be covered by your employer's insurance. (Check that you are covered for voluntary fieldwork for NARRS). In any case, please make sure you are adequately insured, and contact us if you need to be covered by HCT insurance.

Chris Gleed-Owen, the HCT, 27 June 2006

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