

GUIDANCE NOTES ON USING REFUGES FOR REPTILE SURVEY; Notes by Bill Whitaker

GENERAL OVERVIEW

As with all outdoor activity observe normal health and safety common sense procedures and if "Lone working" in remote areas use a "buddy system". Reptiles are usually found in quiet, wild places "off the beaten track" and the ground may be rough or uneven with unseen buried hazards. The risk of trips or falls and potential ensuing injury may be significant. Also minor injuries may occur such as insect bites, stings, grazes abrasions, small lacerations and sprains or muscle injuries.

Get permission from the owners and managers of the site to carry out a survey first, and agree what will be done with the survey information. Wear suitable footwear and clothing, trousers are best because bramble and briars are prickly. Proceed slowly and take your time. Keep the skin covered in sunny hot weather etc.

PREPARATION

Observe appropriate H&S precautions and manufacturers' instructions for any tools used. The most usual suitable materials for reptile 'refugia' are sheets of corrugated iron or bituminous roofing felt but many other materials are also effective. Their main useful property is to be able to absorb and retain heat. If using metal sheets, all one needs to do is to cut them to suitable carrying size, and paint them so they are not shiny. They need to be natural sorts of colours that will absorb and retain heat. Dull black and/ or brown, are both suitable. Primers and auto paints can be useful for this. Traditionally rusty corrugated iron is excellent and readily available. Angle grinders are good for cutting metal sheets but produce sharp edges which require dressing off with files before use. Generally the larger the refuge, the bigger your chance of finding reptiles. However they then become heavier and more difficult to carry. It is important that refuges sit snugly close to the ground, see below. Smaller refuge size facilitates this. I find 50 cm x 50 cm a generally convenient and useful compromise size. If using roofing felt, there is a choice of two grades, both work well. The underlay grade is thinner and does not lie as snugly on the ground as does the heavier roofing grade. Felt too is easier to carry than metal sheets. Also they can be placed on top of each other, and then made into a roll, put in a rucksack and carried on the back making walking easier. So it is a matter of preference, and choice. For felts, all one needs is a Stanley knife and a straight edge to guide the cut.

LAYING AND MAPPING

Lay refuges where the best structured and biodiverse habitat is, and use mini topographical features, e.g. banks humps, or hollows or depressions when you can. As a general rule, interfaces between grassland and scrub or secondary woodland are often the best first option for placing refuges. Think DRY not DAMP, obviously choose potentially sunny locations. Wear gloves, cutting any light woody scrub or thick vegetation as necessary using secateurs or garden shears, so that the refuge lies close to the ground or cut vegetation.

Use a compass to check aspect. Scatter natural vegetation thinly over the refuge to act as camouflage. Guidance on the sorts of habitats and features used by reptiles can be found in the ARC Reptile Habitat Management Handbook www.arc-trust.org

Either GPS the refuges or make a map/diagram showing where the refuges are. Paint on an ID number for reference and reporting purposes. (Spray paint useful). Prepare more detailed notes as necessary to help searchers without GPS to find them.

CHECKING REFUGES

1. Approach with the sun roughly behind you, tread carefully, quietly and move slowly. Reptiles are very sensitive to vibration.
2. Look carefully for reptiles on the top surface first and then around the refuge edges before attempting to lift them and look underneath.
3. Use a suitable tool, e.g. a short stick, placing it under one edge and raising it just off the ground before completing the lift fully with the other hand. Be ready to replace the refuge if necessary and move away quickly without recording at all. It has been known for bees and wasps to make nests under refuges and disturbance can cause them to get angry. So avoid personal injury, use your discretion. Usually one is able to search under the refuges and see what reptiles or other wildlife are using them. Look very carefully, sometimes reptiles are semi buried in the ground layer vegetation beneath and are very difficult to see. Take your time. Do not pick up animals, especially gravid females. If you have a camera, take a snap.
4. Record and report what animals you have found and try and assess their sex and life stage. Write down as much as you can.
5. Carefully replace the refuge and any vegetation, then look for the next refuge.

CHOOSING SUITABLE WEATHER CONDITIONS FOR SURVEYING

This is not as easy as you might think. It varies with the time of year, and the particular species life stage and sex of the animal. In spring and autumn warm sunny conditions are often suitable throughout the day, but from May through to August reptiles hardly need to bask at all before being active. They often find the weather simply too hot especially during long spells of settled weather, so they are not seen as much. Mixed changeable weather conditions, e.g. sunny periods, with or without showers, or cloudy overcast humid conditions with the sun trying to or just breaking through are often more likely to be fruitful. The first day after a cold or wet spell is often a very good time to look.

FAQ's

How long after laying a refuge should it be left before having a look?

10-30 days is the sort of time lapse when I start finding animals. However, I have known a refuge to 'turn up' a reptile just half an hour after laying in early April; obviously because I had actually laid it on top of them! I have known other refuges to be used for the first time over a year after first laying. May be because it was on the edge of the animal's foraging territory? Some refuges are never used probably because there are no animals to find.

Is it important to record weather conditions?

Not really, except for personal interest and guidance for future visits. The microclimate where the animals are is probably more important - that will vary from place to place on a site and even during the course of a single survey visit. It is much more important to spend time 'turning refuges'.

How often and when should I look?

I usually try to visit at least 10 times for a full season survey. From the middle of August to the end of September is the most important period to cover. Juvenile animals are born in clutches at this time of year and breeding success information is most important because it tells us about the conservation status of the animals and suitability of the habitat and its management. So I try to visit 4 times during this period. In mid summer once a month is sufficient.