

SARG Guide

Surrey Amphibian and Reptile Group



SARG Guide to Adder Emergence Surveys



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Version 1.0

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1. Introduction

- 1.1. Adders hibernate communally. On emergence from hibernation, it is common for males to aggregate in safe basking areas close to the hibernaculum, awaiting the emergence of females. Both hibernacula and aggregation areas are key habitat features, which are too often accidentally mown over during habitat management as their location is not known to land managers. The loss of these features can be disastrous for an adder population.
- 1.2. SARG adder emergence surveys are designed to identify aggregation areas, and where possible hibernacula in order to inform land managers of the precise location of these key features.
- 1.3. Adders emerge around mid-February (often sooner in mild winters). It is male adders which emerge first, and it is common for them to bask communally, gaining energy from the sun until shedding their over-winter skin. Towards the end of March, females will start to emerge with courtship and mating occurring most frequently in April. From the end of April, males in particular will disperse away from hibernacula areas to hunting grounds up to 1500 metres away.

2. Determining Likely Survey Locations

- 2.1. As adders can be found close to their hibernacula in the early part of the year, we can use sighting records from this period (nominally before 15th April) to cue emergence survey effort.
- 2.2. Analysis of survey sites for early adder sightings allows us to generate transects that maximise the chances of discovering aggregation areas. Once these aggregation areas are recorded, subsequent surveys may be able to identify the precise hibernaculum location.



Figure 1 - Early adder sighting records

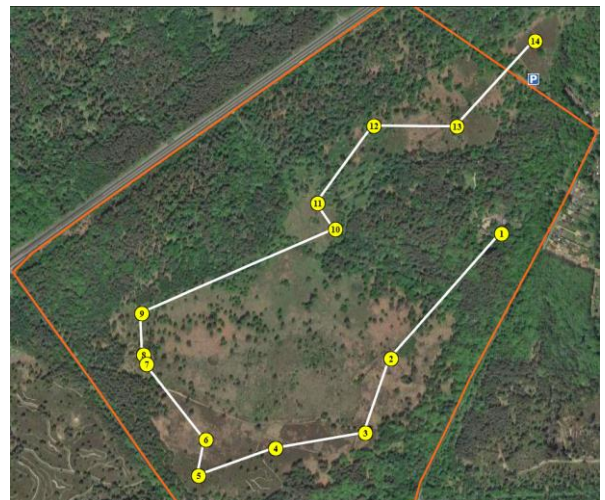


Figure 2 - Adder emergence survey transect

3. SARG Emergence Survey Protocol

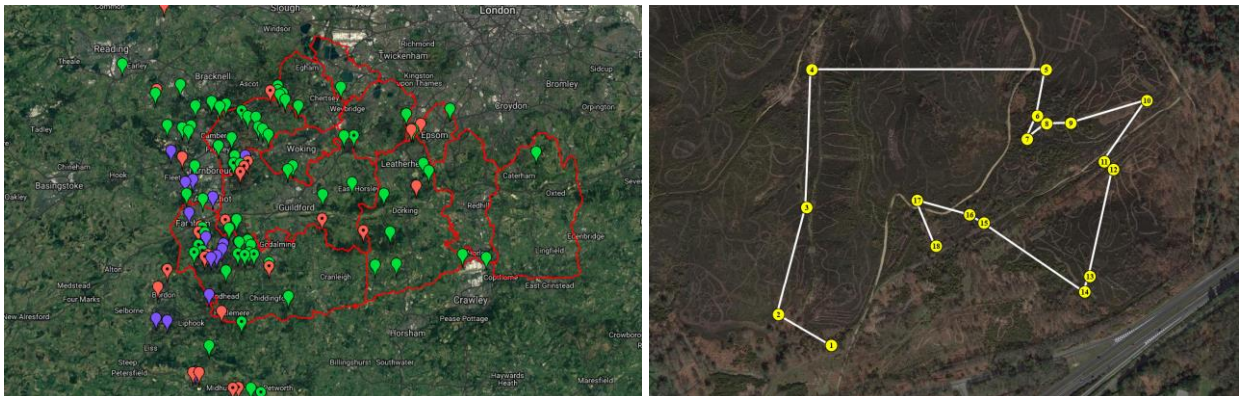
- 3.1. To access Emergence Surveys on the SARG Website, you will need to be a current SARG member and have both 'Reptile Surveyor' and 'Emergence Surveyor' permissions. Normally, you will have successfully conducted a number of reptile surveys at fixed refugia survey sites. Emergence surveys use visual sighting skills alone, which is more difficult than conducting refugia-based surveys.
- 3.2. To receive 'Emergence Surveyor' permissions, you must have attended an Emergence Survey training session to familiarise yourself with the Emergence Survey Protocols. Access to the Emergence Survey pages will allow you to download transect waypoints in .GPX format, suitable for use in a GPS unit.
- 3.3. As emergence surveys do not use refugia, the waypoints which define the transect are virtual with no physical entity at the coordinate locations. Waypoints are visited in turn, using visual survey skills between waypoints to record reptile sightings.
- 3.4. As a waypoint is approached, the surveyor should slow their pace and pay special attention to the area. Once at the waypoint, an extensive search of the area within a 50m radius should be carefully surveyed and all sightings recorded. This area has been previously identified from early in-year previous sightings, so there should be a good chance of success. Sightings within 50m of a waypoint should be commented as being within an aggregation area. Should multiple adders be seen in proximity to each other during the legs of the transect (between waypoints), these too should be commented as aggregation areas.
- 3.5. If you encounter an artificial cover object (tin) on any part of the survey, animals under the tin should be recorded, but commented as 'under refugia'.
- 3.6. As is usual for all reptile surveys, the date, surveyor, start and end times of the survey should be recorded.



Emergence Survey Direction

3.7. SARG direction for Emergence Surveys can be found on the SARG Website.

- Log into the members area, then click on the 'Reptile Surveyors' icon.
- On the Reptile Survey Menu, click on the 'Survey Sites' icon.
- The default map is for fixed sites, so click the 'Emergence Sites' button on the page footer.
- As usual, green icons represent high-priority sites and red icons represent recently surveyed sites. Click on the green icon of your choice.
- The pop-up window will provide site information. Click the 'Site Map' button for a visual representation of the site and transect.
- The map will display the virtual waypoints, an idealised route between waypoints (choose you own route), parking places (if known) and the ability to overlay all previous reptile sightings.
- The 'Transect Notes' page will list the waypoints in a sensible order, and provide a textual description (where known). You may choose to use this to tick off waypoints as you reach each one.
- The 'GPX' button will allow you to download a .GPX file of the waypoints for the emergence survey transect. See the SARG Guide to GPS for detail of how to upload these to your GPS unit.



4. Emergence Survey Recording

- 4.1. Recording is similar to refugia survey except that all sightings are visual and their location is recorded by means of a British National Grid reference (Ordnance Survey local reference e.g. SU 87652 43561). Precision should be to 10 digits (as displayed on a GPS unit).
- 4.2. An emergence survey form is provided, but a simple list in a notebook is adequate. Remember to record species, gender and life-stage.

5. Emergence Survey Reporting

- 5.1. On the members' menu, click the 'Reptile Surveyors' icon, and then the 'On-line Reporting' icon. Click on the 'Emergence Survey' icon. Select the surveyed site, date of survey and times on and off site.

Step 1 - Enter Survey Description
Emergence Survey
 This form is for reporting results from formal emergence surveys at core sites only
 For casual sightings at other sites use the [Sightings Report Form](#)

Name of Surveyor: Steve Langham
 Email of Surveyor: steve@surrey-arg.org.uk
 Name of Site:
 Date of Survey:
 Survey times: Start End
 24 hr clock
 Admin autofill option: populates all times in numerical order - for adding 3rd party data

Records from the emergence survey of Baginbode Common
 by Steve Langham (steve@surrey-arg.org.uk)
 on 11 October 2018 between 10:00 and 11:45

Record 1		Location	Number of reptiles					
Add number seen in grid		Smooth Snake	Adder	Grass Snake	Slow Worm	Sand Lizard	Common Lizard	Unknown
Adult	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
	Unknown	0	0	0	0	0	0	0
Sub-Adult	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
	Unknown	0	0	0	0	0	0	0
Juvenile	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
	Unknown	0	0	0	0	0	0	0
HIbernaculum:		0	0	0	0	0	0	0
Slough:		0	0	0	0	0	0	0
Eggs:		0	0	0	0	0	0	0
Corpse:		0	0	0	0	0	0	0
Comments:		<input type="text"/>						

- 5.2. If no sightings were recorded, click the 'No sightings on this survey' button.
- 5.3. If sightings were recorded, click the 'Add Sighting' button. Enter the OS grid reference for the sighting, and select the identification details of animals sighted. You may add optional comments. Repeat this process for additional sightings by clicking the 'Add another sighting' button. When all sightings have been recorded, click the 'Submit Survey Report' button. You will receive a confirmatory email including all details you have entered.

6. Emergence Survey Exploitation

- 6.1. SARG has distribution map portals for all major land owners in Surrey. As aggregation area and hibernacula details are recorded, they will appear on these maps. By referring to the SARG data when undertaking habitat management, it is hoped that these vital habitat features will be preserved and adder populations sustained.
- 6.2. All sighting records submitted will inform land-managers of the distribution of reptiles on their sites, and adder sightings will cue future emergence surveys.

7. Contact

7.1. Should you wish to learn more about SARG reptile surveys, please contact the SARG Reptiles Officer, Jamel Guenioui on

reptiles@surrey-arg.org.uk