

SARG Guide

Surrey Amphibian and Reptile Group



# **SARG Guide**

## ***Conducting Amphibian Surveys***



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## Contents

Contents.....	2
The SARG Guide to Conducting Amphibian Surveys.....	3
1. Introduction.....	3
2. Where and when to survey .....	3
3. Health and Safety .....	3
4. Types of survey.....	3
5. Daylight Survey .....	4
6. Daylight Egg Search.....	4
7. Daylight Netting.....	5
8. Night Survey .....	5
9. Torchlight Survey .....	5
10. Bio-Security .....	6
11. Recording.....	6
12. Additional Help .....	6
13. Other Useful Guides for Amphibian Surveyors.....	6

# The SARG Guide to Conducting Amphibian Surveys

## 1. Introduction

- 1.1. This guide describes the SARG methods for Amphibian Survey. By following these guidelines, the data you generate whilst conducting surveys can be used to the maximum benefit of the species.
- 1.2. All SARG amphibian surveyors will have received training, and this guide is designed to be an *aide memoir* to recall some of the advice provided.
- 1.3. All SARG amphibian surveyors should have signed a SARG Volunteers Working Agreement. This means that you will be fully covered by the ARG-UK insurance policy.

## 2. Where and when to survey

- 2.1. The SARG website for amphibian surveyors lists details of all the long-term core amphibian survey sites that we monitor. The companion guide: *SARG Amphibian Surveyors Guide to SARGWEB* describes how to use the website for guidance and direction.
- 2.2. The SARG amphibian survey season is from March to May inclusive for widespread native species. We aim for one survey per pond, per month during this period (three surveys for each pond in a year).

## 3. Health and Safety

- 3.1. Please see the *SARG Surveyors' Generic Risk Assessment* for hazards which may affect amphibian survey, and *SARG Lone-Worker Procedures*. The key issues that should always be considered are:
  - Regard all pond water as a potential source of disease. There are several pathogens that can be contracted from pond water.
  - Do not immerse open cuts in water
  - Do not ingest pond water
  - Do not consume food or drink or smoke cigarettes during pond survey work
  - Wash hands thoroughly after a pond survey

## 4. Types of survey

- 4.1. There are two broad categories of amphibian survey: Daytime survey and Night-time survey. We always recommend that a daytime survey is conducted before you survey any unfamiliar pond at night. This allows you to assess any hazards using the benefit of daylight. Additionally you can better judge how much of the pond's circumference can be easily surveyed and how easily the water may be penetrated by torchlight due to duckweed or willow pollen.

## 5. Daylight Survey

- 5.1. The first task is to assess the general characteristics of the pond, and make notes of any factors that could affect a night survey.
- 5.2. Note any potential amphibian predators observed, such as wildfowl or fish.

## 6. Daylight Egg Search

- 6.1. Carefully walk the circumference of the pond, looking for folded leaves of aquatic plants that may conceal newt eggs. Such leaves should be examined by gently pulling apart the fold to identify the egg, then replacing the leaf or plant below the waterline. Record all observations in a notebook or on a SARG amphibian survey recording form.
- 6.2. Occasionally, the egg may be identified without prising apart the leaf. If leaves do need to be prised apart, this significantly reduces the chances of survival for the animal. We recommend no more than three leaves be prised apart during any single survey.
- 6.3. Should a great crested newt egg be identified, then no further leaves should be prised apart.
- 6.4. The eggs of great crested newts are large (in comparison) and white in colour. Palmate and smooth newt eggs are smaller and dirty-brown or cream in colour.



*Great crested newt egg*



*Palmate newt egg*

- 6.5. From February through to April, look for frog or toad spawn.

## 7. Daylight Netting

- 7.1. Netting can be conducted both during the day and at night, using a high-quality survey net (See Annex A – Equipment). Netting is used to detect adult newts, their larvae, or frog and toad tadpoles. You may additionally catch, and note, aquatic invertebrates or fish.
- 7.2. Grasping the net firmly, planting the edge of the net close to the bottom of the pond, sweep vigorously in a *figure of eight* motion for 15 seconds, and repeating every 2 metres of the pond's circumference that is safely accessible.
- 7.3. Be careful not to damage too many aquatic plants whilst netting.
- 7.4. The contents of the net may be examined within the net, or tipped out into a light-coloured plastic container. Ensure that all animals caught are carefully replaced into the pond.



## 8. Night Survey

- 8.1. Night surveys can be particularly productive, not least because our native amphibian species are generally nocturnal. The usual means of surveying a pond at night is by conducting a torchlight survey.
- 8.2. Night surveys should not be conducted in heavy rain, nor when the water temperature drops below 5° C, as amphibians are less active in these conditions.

## 9. Torchlight Survey

- 9.1. You will require a good quality torch with at least one-million candle-power. Details of recommended torches can be found in the equipment annex at the end of this guide.
- 9.2. Remember to have conducted a daylight visit if the pond is unfamiliar.
- 9.3. Stand at the edge of the pond, and with the torch on its highest power setting, scan the beam from the pond bank by your feet, out into the pond for as far as you can see the pond bottom, and back again.
- 9.4. Move around the pond edge by 2 metres (if accessible) and repeat. Continue this procedure until the entire accessible pond circumference has been surveyed. Make a note of species, gender, life-stages and numbers observed.



9.5. Also note any fish or aquatic invertebrates observed.

## 10. Bio-Security

10.1. One of the most significant threats to amphibian conservation is the Chytridiomycosis disease caused by the fungus *Batrachochytrium dendrobatidis*. This disease may have been responsible for an 80% reduction in amphibian numbers world-wide.

10.2. Chytrid (as it is colloquially known), has been detected in the UK, although we do not yet fully understand the risk posed to our native amphibians.

10.3. Bio-security measures must be practised by all SARG surveyors, as we do not want to be responsible (or seen to be responsible) for the spread of this potentially lethal disease beyond that caused by natural vectors.

10.4. Also, lack of bio-security measures could spread damaging and invasive plant and animal species.

10.5. The following procedures should be applied for all pond surveys:

- Remove all debris from Wellington boots, waders, nets etc.
- Disinfect in a 10% bleach solution for 15 minutes.
- Rinse and dry thoroughly

## 11. Recording

11.1. On-site observations can be recorded in a notebook or using a SARG recording form. The *amphibian surveyor's guide to SARGWEB* explains how to submit your observations via the SARG website.

11.2. By recording your observations on-line, we can augment your sightings with full meteorological and astronomical data, which helps us to generate conservation and detectability statistics.

## 12. Additional Help

12.1. If you require any additional help with amphibian surveys, please contact either Danial (danial@surrey-arg.org.uk) or Steve (steve@surrey-arg.org.uk).

## 13. Other Useful Guides for Amphibian Surveyors

- SARG GPS User's Guide
- Amphibian Surveyors Guide to SARGWEB
- SARG Surveyors' Generic Risk Assessment
- SARG Lone Workers Procedure

Downloadable at:

<http://www.surrey-arg.org.uk/SARG/07000-Publications/SARGdocsMenu.asp?DocType=Guides>

**14. Annex A – Equipment**

Equipment	SARG Recommendation	Approximate Cost	How Essential?
High-power torch	Cluson CB1/CB2	~£100.00 <a href="#">Link</a>	
			
	Halco High Intensity 3 Watt LED Spotlight	~£22.00 <a href="#">Link</a>	High
			
Survey Net	GB Nets: 250 wide Standard Frame - traditional wooden handle and bag, Kick Net Bags 250 wide - Amphibian/ Seashore 300 Deep.	~£45.00 <a href="#">Link</a>	Moderate
			