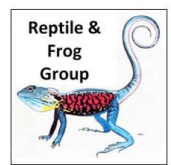


Field Naturalists Society of South Australia Inc.



Field Survey Protocol

Contents

1.	Introduction	2
2.	Aim	2
3.	Scope	2
4.	Background	2
5.	Survey Approvals	2
6.	Survey Hazards & Risk Management	3
6.1	Hazards	3
6.2	Health & Welfare	3
6.2.1	Survey Vehicles	3
6.2.2	First Aid	3
6.2.3	General Safety and Injury Prevention	4
7.	Roles & Responsibilities	4
7.1	Designated Survey Approvals Holders	4
7.1.1	Wildlife Ethics Approval	4
7.1.2	Scientific Permit	5
7.1.3	Teaching Permit	5
7.2	Survey Leader(s)	5
7.3	Survey Participants	6
8.	Designated Survey Camp Site	7
9.	Typical Field Survey Schedule	7
10.	Survey Site Management	8
10.1	Survey Site Set-up	8
10.1.1	Survey Leader	8
10.1.2	Survey Participants	8
10.2	Checking a Survey Site	8
10.2.1	Survey Leader	8
10.2.2	Survey Participants	9
10.3	Closing a Survey Site	9
11.	Opportunistic Searching & Spotlighting	9
11.1	Survey Leader	9
11.2	Survey Participants	10
11.3	Searching in Remote Locations	10
12.	Document Control	12

1. Introduction

The Objectives of the Field Naturalists Society SA (FNSSA) is to promote the study of, and interest in, natural history and to promote the establishment of reserves for the preservation of our native fauna and flora. This includes educating members on all aspects of vertebrate fauna, including interacting with animals in their native habitat and furthering scientific study. To provide this education the FNSSA regularly conducts field trips and surveys for members and other interested parties.

This protocol has been developed to assist field survey participants, especially families and younger members, in gaining positive experiences and education while safely participating in field trips and undertaking field activities.

Field surveys often include the installation and checking of pitfall traps/lines and opportunistic searching. While undertaking these activities there is the potential for some members of the survey to miss out on instructions or education from the team leader or senior team members or opportunities to observe or handle fauna. There is also the potential for inexperienced survey participants to mishandle fauna, endanger themselves or inadvertently cause environmental damage. Many surveys also require participants to undertake 'bush camping', often with limited facilities and sometimes in remote locations.

Please Note: For insurance liability purposes, all field survey participants should be current financial members of the FNSSA or member organisation endorsing the field survey (e.g. Friends of Parks).

2. Aim

This document seeks to provide guidance for all survey participants to minimise negative experiences and impacts and is therefore reviewed and updated on occasions.

3. Scope

This protocol applies to all FNSSA members and participants in a field survey, including those undertaken exclusively by FNSSA or in conjunction with other organisations.

4. Background

The FNSSA has an on-going role to further the knowledge of the distribution and status of Vertebrate Fauna in South Australia. As a consequence, the group undertakes a number of field trips each year to various locations around the state in order to search for animals and further our knowledge of their distribution.

5. Survey Approvals

In South Australia, field surveys are regulated under relevant state legislation. In order to comply with the legislation, field surveys must be approved by the relevant government regulators prior to the commencement of a survey. The following approvals are usually required prior to undertaking a field survey:

- Approval to use animals for the Purpose of Research, Teaching or Experimentation
- Permit to undertake Scientific Research
- Licence for teaching, research or experimentation involving animals

The survey must be conducted in compliance with the following documents:

- Wildlife Ethics Committee protocols and approvals
- Valid Permit to Undertake Scientific Research
- Valid Licence for teaching, research or experimentation involving animals
- Guidelines for Vertebrate Surveys in South Australia using the Biological Survey of South Australia (H Owens, et al. December 2000), SA Department for Environment and Heritage.

There is also a general requirement to undertake surveys in a safe and environmentally responsible manner to minimise the impacts on the survey environment (native vegetation and fauna), and associated areas, including campsites, roads/ tracks & private property and to minimise the risks to survey participants.

6. Survey Hazards & Risk Management

6.1 Hazards

There are a number of hazards and risks associated with undertaking SAHG field surveys. The major hazards and risks associated with field surveys may include:

- Remote locations
- Poor or hazardous road conditions (e.g. unsealed loose roads, wet or boggy conditions, washouts, etc)
- Vehicle accident or breakdown
- Sun Exposure (e.g. Sunburn, Heat Stress or Heat Stroke)
- Sprains and abrasions from slips, trips, falls, contact with vegetation, etc
- Eye injury from vegetation
- Bites and stings from snakes, spiders, scorpions, centipedes, ticks, bees, wasps, mosquitoes & other insects
- Burns from stoves or fires
- Extreme weather or temperature conditions (e.g. very hot weather, thunderstorms, flash-flooding).

6.2 Health & Welfare

6.2.1 Survey Vehicles

All survey vehicles must be registered, road-worthy and suited to the road conditions at the survey site. Field surveys can be conducted in remote locations with limited access to fuel or mechanics.

Take care when refuelling vehicles to avoid soil contamination. Don't refuel vehicles in or adjacent to creeks or water bodies.

6.2.2 First Aid

Field surveys can be conducted in locations that may be remote from medical and hospital assistance. Field survey participants should take this into consideration when planning for a trip. A list of recommended field survey equipment is provided in Appendix A.

It is recommended that all vehicles participating in a survey carry a suitable first aid kit. Participants should carry a small personal kit in a backpack when undertaking opportunistic searching away from a vehicle. Both St John and the Red Cross have websites that provide information and advice on first aid including the purchase of first aid kits, supply first aid books and training.

Survey participants must complete, email, or provide a completed Field Survey Registration Form prior to commencing survey activities. Personal information on medical conditions (e.g. allergies, diabetes, asthma) should be provided to allow Team Leaders to assist you in the event of a medical emergency. This information will be kept confidential and forms are destroyed at the conclusion of the survey. Survey participants should ensure that they have sufficient supplies of personal medication for the duration of the survey.

6.2.3 General Safety and Injury Prevention

Sunburn

Hats and long sleeved/legged clothing and sunburn prevention cream should be worn to prevent sunburn and heat stress. This will also prevent scratches and scrapes from vegetation.

Animal Bites and Stings

Fauna species are often encountered during survey work that can inflict bites and stings of varying severity. The major risk in Australia is from the bite of one of our dangerously venomous snakes. The risk of bite is minimised by wearing long pants, closed footwear and using leather gloves when performing field work. In particular, gloves must be worn when checking traps, especially pitfall buckets.

Participants should have knowledge of snakebite first aid, carry at least two appropriate bandages, and in particular:

- an awareness of the signs and symptoms of snakebite
- being able to check if the victim is breathing and responsive
- reassuring the victim
- applying pressure immobilisation bandages to reduce venom circulation
- immobilising the victim to reduce venom circulation
- seeking immediate medical assistance.

If you need any advice on snake bite management, please talk to one of the Survey Leaders or first-aid qualified participants who can provide you with advice.

If bushwalking away from the Team Leaders or other senior experienced persons, it is recommended that pressure immobilisation bandages are carried as a component of a first aid kit. No one should walk alone during field surveys.

7. Roles & Responsibilities

One or more members of FNSSA or an affiliate association member is responsible for obtaining and enforcing the relevant approvals required to conduct the survey. Typically one or two of the Approval holders will also act as the designated Survey Leader.

7.1 Designated Survey Approvals Holders

7.1.1 Wildlife Ethics Approval

A Wildlife Ethics Approval is issued to a 'Primary Investigator' or Authorised Person. The ethics approval will also list 'Nominated Participants' who assist the Primary Investigator.

The Authorised Person is responsible for:

- Successful completion of Wildlife Ethics Committee (WEC) online training prior to conducting a fauna survey
- Compliance with the WEC approval conditions including appropriate handling, care and housing of animals at all times.
- Provision of records and reports to the WEC including adverse incident events and annual reports.

The Nominated Participants are responsible for:

- Successful completion of Wildlife Ethics Committee (WEC) online training prior to conducting a fauna survey

- Assisting with compliance with the WEC approval conditions including appropriate handling, care and housing of animals at all times.

7.1.2 Scientific Permit

A Permit to Undertake Scientific Research is issued to a 'Permit Holder'. The scientific permit will also list 'Field Assistants' who assist the Permit Holder.

The Permit Holder is responsible for:

- Compliance with the permit conditions including standard and additional conditions.
- The actions of other persons who may undertake survey activities on their behalf including trapping and handling of fauna.
- Appropriate handling, care and housing of animals at all times.
- Collection and recording of all records associated with the survey and the provision of records and annual reports to Department for Environment and Water Research Permits Officer.

Field Assistants are responsible for:

- Assisting the Permit Holder with compliance with the scientific permit conditions including appropriate handling, care and housing of animals at all times and collection of scientific data.

7.1.3 Teaching Permit

A Licence for teaching, research or experimentation involving animals is issued to an authorised person. The licence holder is responsible for ensuring that the conditions of the permit, in relation to research or teaching involving animals, are complied with.

7.2 Survey Leader(s)

At the commencement of the survey the survey leader(s) are required to conduct a general briefing and induction session about camp rules and the survey area to ensure that all survey participants are aware of relevant information including:

- Approvals and permits associated with the survey
- Survey objectives
- Any hazardous, restricted or 'no-go' areas, speed restrictions or poor road conditions (e.g. private property, sensitive sites, heritage sites, hazards)
- Any environmental hygiene or disease restriction protocols (e.g. prevention of the spread of Phytophthora (plants) or Chytrid Fungus (frogs)).
- Location of survey search areas
- Protocols for the handling of specific animals (e.g. frogs, small mammals, venomous snakes)
- General timetable of activities (including daytime and nocturnal surveying, 'show & tell' sessions)
- Communication during the survey (e.g. which UHF channels are being used)
- Capture and recording of survey data and record management, including provide opportunistic searching forms to participants to assist with record collection.
- Any housekeeping issues for the campsite (e.g. location of toilet facilities, refuse management)
- Emergency protocols for:
 - Evacuation plans with respect to fire

- Medical first aid including identifying first-aiders within the group and providing information on the nearest hospital or medical centre

The survey leader(s) are also required to:

- Collect Field Survey Registration Form from survey participants including confidential information from regarding 'next of kin' contacts and medical conditions (diabetes, anaphylaxis (+ if carrying epi-pen), allergies, asthma, etc).
- Work in consultation with other experienced survey members.
- Determine the 'make-up' of survey participants and where, required, allocate mentors (i.e. experienced members) to new or inexperienced survey participants.
- Coordinate vehicle movements to minimise environmental impacts (e.g. dust generation, road kill, vegetation damage)
- Encourage participants to ask questions and check references.
- Take into consideration the knowledge base of some of the newer participants when discussions take place in the camp or at survey sites as the knowledge of some participants may initially be limited. Where appropriate limit the use of jargon by using common names and descriptions (skink, gecko or dragon etc.) to help children. With common names and scientific names, participants can walk away with a basic knowledge which they can build on.
- Encourage inexperienced members to search for the scientific names of animals and plants in reference books or the internet to help them build up their knowledge base without feeling left out.
- Advise participants that they can request summaries of the field survey results and associated photos.
- Collect and regularly review (i.e. at least once a day) survey record data and, where possible, confirm species identification while in the field.

7.3 Survey Participants

Survey participants are required to:

- Complete a Field Survey Registration Form prior to commencing survey activities (refer to Section 6.2.2 under First Aid).
- Familiarise themselves with the survey aims, issues, hazards, etc by attending the general briefing or approaching the survey leader (e.g. if a late arrival to the camp).
- Advise the survey leader of your arrival and provide any relevant documentation (e.g. Field Survey Registration Form)
- Comply with all reasonable directions from the survey leader(s).
- Behave in an orderly and respectful manner at all times.
- Ensure that all children are under the supervision of an adult at all times.
- Respect the property of others at all times, such as, that of the landowners and camping places and indigenous sites. Souvenirs should not be taken.
- Avoid entering any identified hazardous (e.g. unstable cliff edges, quarry faces, mine shafts, farm dams, stock watering sites), restricted or 'no-go' areas.
- Follow any precautions to prevent the spread of environmental diseases or pathogens such as Phytophthora.

- Comply with safety requirements including avoiding leaving your group without notifying the field trip leader of your intended movements in time and place.
- Ensure that all rubbish is collected and taken home at the end of the trip.
- Minimise the environmental footprint of activities. Vehicle drivers should remain on established tracks at all times and select turning points carefully to avoid vegetation damage.
- Regularly report any fauna records to the Survey Leader or Assistants.

8. Designated Survey Camp Site

Upon arrival at a survey camp site, all survey participants are required to:

- Advise the survey leader(s) of your arrival and provide any relevant documentation (e.g. Field Survey Registration Form)
- Make sure they are camping within the designated camping area
- Avoid or minimise damage to vegetation when setting up or parking vehicles
- Be aware of any restrictions regarding fires, especially during the fire season (e.g. no wood fires permitted, gas stoves or BBQ only). Locations are often sensitive to fire. Foreign timber brought into a reserve may contain contaminants and pests. Fire scars left need to be considered and not remain to encourage others to camp. Firewood collection on site is often prohibited. Localities may have local fire plan requirements established by CFS, Local Government and landowners.
- Familiarise yourself with the location of facilities, where available (e.g. toilets, showers, mess areas, meeting rooms)

Whilst on site, survey participants are also asked to:

- Maintain a good level of housekeeping (e.g. discarding wastewater through burial, secure all rubbish and food scraps to prevent spread by wind or animals)
- Be mindful of other survey participants and keep noise to a minimum in the evenings.

When leaving a campsite survey participants are asked to

- Collect all your belongings and refuse and take them home with you
- Let the survey leader know that you are leaving and have concluded your participation in the survey.

9. Typical Field Survey Schedule

A typical field survey schedule is as follows:

First Day

- Travel to site
- Set up camp (if staying on site)
- Set up survey sites (e.g. installation of trap lines)

Subsequent Days

- Morning (~07.00-07.30hrs) - Within 1hr of sunrise undertake checking of survey sites for any fauna captured overnight
- Late morning – meal break
- Early afternoon – opportunistic searching or free time

- Mid afternoon (~15.00hrs) – Survey leader and Assistants to review fauna survey records, confirm identification and collate searching & spotlighting records
- Late afternoon (~16.00hrs) – check survey sites for any fauna captured during the day
- Early evening – evening meal
- After evening meal – communal gathering / daily debrief / show and tell
- Optional spotlighting

Final Day

- Final check of survey sites and pack up of trap lines and survey equipment
- Pack up camp
- Depart survey.

10. Survey Site Management

10.1 Survey Site Set-up

Survey sites are usually comprised of a line or pitfall traps and/or a line of Elliot traps, but this may vary depending on the terrain and vegetation types.

All survey sites are set up as per the Guidelines for Vertebrate Surveys in South Australia using the Biological Survey of South Australia.

10.1.1 Survey Leader

The location of the survey sites is determined by the Survey Leader or delegate.

The Survey Leader is responsible for ensuring that the survey site data is collected including location coordinates, site description and location and types of survey equipment installed at site.

10.1.2 Survey Participants

Survey Participants are encouraged to assist with the establishment of set-up of the survey site including helping dig pitfall traps and install buckets and drift netting, and setting up Elliot, cage and funnel traps and associated temporary markers/flagging. Excessive disturbance of vegetation and soil at the survey site is to be avoided.

10.2 Checking a Survey Site

10.2.1 Survey Leader

When visiting survey sites the survey leader(s) is required to:

- Ensure that all participants are organised into groups and instructed to arrive at allocated site together before approaching pit and trap lines.
- Encourage new members to help actively and safely check traps by:
 - Discussing and explaining what can be seen.
 - Explaining what sometimes can't be seen (i.e. buried under the soil or hiding in toilet rolls such as small snakes, spiders, scorpions and other invertebrates).
 - Scratching around in buckets with safety equipment such as gloves and small snake hooks, etc.
 - Demonstrating, when retrieving captures and collecting invertebrates, how not to injure or lose specimens.
- Use appropriate viewing containers for captured fauna being handled.

- Lead a discussion or debrief of specimens found and recorded.
- Determines specimens for SAM Vouchering (only when required)
- Ensure the return and release of captured fauna being returned at or near point of capture.

10.2.2 Survey Participants

At the commencement of a survey site inspection participants are required to:

- Wait for all participants or pre-arranged groups to arrive at allocated site before approaching pit and trap lines. Be aware that there may be a need to check for additional opportunistic sightings in the location. Experienced members are requested to team-up with inexperienced participants.
- Ensure that children are always in the care of parents or designated carers at all times while investigating any traps.
- Approach and check pitlines, funnel mesh traps, and Elliott traplines as a group and follow pitlines or Elliott numbers in sequence to ensure that no traps are missed.
- Stay on the defined tracks when entering survey areas or trap lines to minimize impacts to soil and vegetation.
- Actively and safely check traps by:
 - Looking for obvious captures, and particularly very small creatures, which will desiccate in hot dry conditions and especially when packing up trapping equipment.
 - Carefully scratching around in buckets with safety equipment such as gloves and small snake hooks to locate any animals which may be hidden
 - Carefully retrieving captures and collecting invertebrates without injuring or losing specimens.
- Assisting with required written records providing the necessary fauna and site information.
- Assisting with the collection of biometric information on selected species (e.g. sex, weight, snout-vent lengths, etc).
- Appropriately bagging venomous creatures, and complete labelling on bagged fauna taken from trapline.

10.3 Closing a Survey Site

On the last day of the survey, all survey sites are closed.

All Survey Participants are encouraged to assist with the closure of the survey sites. Closing a site typically involves collecting and packing up all traps, including drift nets, pulling up buckets, backfilling excavations and trenches. All marker flags must also be removed.

Care must be taken when undertaking final checks of funnel traps and emptying debris from the bottom of buckets as small fauna may be concealed.

11. Opportunistic Searching & Spotlighting

Survey participants have the option to undertake opportunistic searching and spotlighting during a survey.

11.1 Survey Leader

When undertaking opportunistic searching or spotlighting the survey leader(s) is required to:

- Explain to all participants to be mindful of the minimal impacts of walking around areas or excavating burrows (i.e. avoid stepping on small plants, sensitive habitats, digging up plants, etc.)
- Advise participants of which species are expected to be found (e.g. species likely to occur in the habitat, previously recorded species).
- Advise participants of procedures to avoid getting lost, especially during nighttime searching.

11.2 Survey Participants

When undertaking opportunistic searching or spotlighting survey participants are required to:

- Notify field trip leaders prior to undertaking opportunistic searching or spotlighting.
- Make sure you:
 - are wearing appropriate clothing and footwear
 - are carrying drinking water
 - have a spare torch or batteries
 - keep bodies and limbs inside vehicles for personal safety.
 - have any 'tools' to assist in your search (e.g. rake, snake hook, gloves, torch)
 - are carrying a First Aid Kit containing pressure immobilisation bandages (at least one member of the group)
 - where available, take a UHF radio with your group
- Record and take note of time spent at sites or location (where possible use a data collection sheet) and on return, pass the information onto the designated leader for data records.
- When searching at sites or locations explain to all participants to be mindful of the minimal impacts of walking around areas (i.e. avoid stepping on small plants, sensitive habitats, etc.)
- Be aware of species that may be expected to be found (likely and previously recorded).

11.3 Searching in Remote Locations

When undertaking opportunistic searching in remote locations the following measures shall be taken:

- The survey party must consist of at least two (2) vehicles (i.e. travel with at least one other vehicle)
- Do not undertake searches when the temperature is 38°C, or above
- Carry an appropriate map of the region, and copy of Field Survey flyer
- Carry an appropriate First Aid Kit for remote regions, and two appropriate snakebite bandages
- Carry some portable shade or shelter (e.g. tarpaulin that can be tied to a vehicle or tree)
- Carry sufficient water (minimum of 5 litres per person, per day)
- Inform the Survey Leader of your intended survey and complete a journey log before departure (e.g. make a note of time of departure, list of passengers, location of search area, and estimated time of return). Make sure the log is left with an appropriate person at the campsite so that an alarm can be raised if you do not return on schedule.
- Carry a UHF radio (hire or buy one or you may be able to borrow from other survey members) and know the designated channels for general communication, nearby homestead, and emergencies.

- When searching keep other members of the group in eyesight and partner up with someone. Return to the main group after ten minutes
- Maintain an awareness of your surroundings and the direction of vehicles at all times. If passengers are swapping between vehicles, make sure that each driver knows the changes and is able to account for you before departing the site.

12. Document Control

This document was originally written by Zoë Bowen for the South Australian Herpetology Group in 2010.

Rev	Author/Edits	Issue Date	Notes
SAHG			
1	P. Meegan	30.04.10	Draft for committee review
2	P. Matejcic	09.05.10	Inclusion of initial committee comments
3	Z. Bowen	30.05.10	Document re-formatting & addition of info
4	SAHG Committee	01.06.10	Amendments and Accepted
5	I. Williams	12.09.11	Inclusion of first aid information & minor text changes
6	P. Matejcic Z. Bowen	15.02.13	Update & inclusion of additional remote area hazards
6a	P. Matejcic	20.09.16	Updated with information on bushfire management
7	Z. Bowen A. Uren	09.09.17	Updated to include insurance requirements & minor changes to activities
FNSSA			
8	P. Matejcic	10.09.22	Document transfer from SAHG to FNSSA and Reptile and Frog Group
9	Z. Bowen	11.09.24	Updated to include reference to survey approvals (WEC, Sci Permit), roles & responsibilities, additional info on survey activities.

Appendix A – Field Survey Equipment List

Suggested equipment list for field survey participants:

- Tent / camper trailer
- Potable water (recommended minimum of 5 litres of water per person per day)
- Water bottle
- Gas cooking equipment (Note: wood fires generally not allowed)
- Head torch and torch
- Food
- Personal medication
- First aid kit
- Insect repellent
- Hat, Sunscreen, protective clothing (long sleeve tops, long pants, robust boots)
- Camera
- Notebook

Other optional items:

- Camp chair
- Binoculars
- Reference books
- GPS
- UHF radio
- Shovel
- Snake hooks, small rakes