The following guidelines are intended to ensure your safety while conducting Frogwatch activities. They are also intended to ensure the integrity of the data that we collect.

Please read through them carefully, and be sure to follow instructions as closely as possible.

Contact the Frogwatch Coordinator on 6278 3309 or waterwatch@ginninderralandcare.org.au if you have any queries.

1) Safety and Other Points to Remember

Please take note of the follow points while you are participating in Frogwatch monitoring.

- A pre-visit to your site(s), during the day is essential. Plan where you are going to do your monitoring, and take note of any potential hazards.
- Hazards to look for include: holes in the ground; banks that are undercut and may collapse; sharp objects such as tree branches or logs; and slippery rocks.
- Make sure you have safe and easy access to the waterway. Select a site that has safe access, taking into account the likely level of any floodwaters. Do not choose a monitoring site that is prone to floods without warning.
- Never monitor alone, and make sure that someone responsible knows where you are going. Arrange a time to be back and stick to it! (Or let them know if there is a change in your plans.)
- You must complete your Volunteer Activity Record Sheet for all activities you undertake that are related to the Frogwatch Program. Please return this record sheet with your Field Data Sheets.
- Do not handle or disturb frogs in any way – they have very sensitive skin and pathogens may be transmitted very easily. Some frogs can also secrete toxins that may harm you.
- Try to avoid coming into direct contact with any water-bodies.
- Ensure that footwear is thoroughly cleaned and sterilised before going out into the field. Refer to the Pathogen Control Guidelines contained in this Kit. This is especially important if you are traveling between different frog monitoring sites, and / or have accidentally come into contact with the water.
- If any equipment that you are using has been in contact with aquatic environments outside the ACT or the upper Murrumbidgee catchment, ensure that it is cleaned and sterilised before taking it into the field (eg thermometer). Equipment must also be cleaned at each site if traveling between different frog monitoring sites, or keep different footwear for each site in separate plastic bags, sterilised before allocating them to a site. Refer to the Pathogen Control Guidelines contained in this Kit.
- Be prepared! Frogs live in wet places, so make sure you have sturdy waterproof shoes with a good grip, a raincoat, and possibly a waterproof bag to cover your notes with.
- Take a strong torch so that you can see what you are writing, and you don’t fall into any streams.
- Be wary of passing traffic if you are monitoring near a road or from a bridge.
- Keep a fully stocked first aid kit handy.
- Take nothing but notes, ....... leave nothing but footprints.
- Do not go onto private land without the owner’s permission.
2) Identify Your Frog Monitoring Site(s).

There are 30 Key Frogwatch Sites that have been prioritised, in order to ensure the consistent and comprehensive monitoring of these sites from year to year. Frogwatch monitoring can also be conducted at over 100 other established sites around the ACT and Region. Participants are encouraged to monitor at one of the Key Frogwatch Sites if possible, in order to ensure that they are monitored effectively each year.

A list of the Key Frogwatch Sites is available from the Frogwatch Coordinator.

Frogwatch participants may also choose a site that has an intrinsic value to the program. For example a Waterwatch monitoring site, a newly constructed wetland or backyard pond, an environmentally sensitive area, waterway restoration site or proposed restoration site, farm dam, local creek or waterway, or a site of personal interest.

Safe access at nighttime is essential when choosing a Frogwatch site!

Contact the Frogwatch coordinator to confirm your availability to monitor at your Frogwatch site from last year, or to discuss the suitability of a site of your choice. The Frogwatch coordinator will assign a site code for any new sites.

You may like to monitor calls at a number of sites; if so, a separate Field Data Sheet should be filled out for each site, each time you do the monitoring.

It is important that the Site Description section on your data sheet is filled out accurately and with plenty of detail, so that the exact monitoring site can be found by different people year after year.

3) A Day Time Visit To Your Site(s)

A day visit to your site(s) is essential.

Check for any safety hazards and plan your access route to the site, remembering that it will be dark when you come to do your monitoring.

Take a photograph of your site, showing the water level and vegetation condition. A photograph is a valuable record to show changes at the site over time, and may help to explain any changes in frog populations. Please return a copy of the photographs with your Field Data Sheets to the Frogwatch Coordinator. Electronic or printed formats are both acceptable.

The following sections of your Field Data Sheet(s) should be filled out during your day visit. Detailed instructions about each of these sections are included in section 7 of this handout.

- **SITE DESCRIPTION:**
  - Site Code
  - Site Name
  - Site Location
  - Street Directory Reference
  - Altitude
  - Easting
  - Northing
- **HABITAT DETAILS**
- **VEGETATION**
- **SITE PLAN - DRAWING**

Don't forget to sign on and off on your Volunteer Activity Record Sheet when you are doing your daytime site visit.

Make sure that your footwear has been thoroughly cleaned and sterilised according to the guidelines set out in the 'Important Pathogen Control Guidelines' contained in your Frogwatch Kit, before entering a Frogwatch site.
4) Monitoring Times

IMPORTANT NOTES REGARDING MONITORING TIMES:

- It is desirable for monitoring to take place 1 - 3 days prior to, during or following rainfall, if possible.
- Volunteers will be encouraged to monitor during the specified time period where possible, to ensure consistency and comparability. However, data collected outside of the specified monitoring times is still valuable, and is encouraged. Data can be collected at any time throughout the year and sent to the Frogwatch Coordinator. This data will be stored and analysed separately and may not be included in the annual Frogwatch Census Report.

To be included in the Frogwatch Census Report, monitoring must take place during the following time period:

<table>
<thead>
<tr>
<th>Season</th>
<th>Dates</th>
<th>Time of day</th>
<th>How often</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Frogwatch Sites</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extra monitoring</td>
<td>Spring</td>
<td>1 - 31 October 2008</td>
<td>During the 2 hours after dark.</td>
<td>Monitoring at the same site on a number of evenings during the specified dates is desirable.</td>
</tr>
</tbody>
</table>

| Other Frogwatch Sites |                              |                                |                                         |                                               |
|-----------------------|------------------------------|--------------------------------|-----------------------------------------|                                               |
| Minimum monitoring    | Spring                      | 19 - 25 October (National Water Week) 2008 | During the 2 hours after dark. | On at least one evening during National Water Week | Audio recording of frog calls for 2 - 5 minutes. |
| Extra monitoring       | Spring                      | 1 - 31 October 2008             | During the 2 hours after dark.          | Monitoring at the same site on a number of evenings during the specified dates is desirable. | Audio recording of frog calls for 2 - 5 minutes. |
5) Before You Set Out

Before you set out to do your monitoring, make sure you have the following equipment:

- This Instruction Sheet;
- Field Data Sheet with Site Description, Habitat and Vegetation sections completed;
- Volunteer Activity Record Sheet;
- Blank tape, clearly labeled with the Site Name, Site Code and Date;
- Portable tape recorder or MP3 player with voice record option (don’t forget batteries!) - you can borrow a recorder from us if necessary;
- Thermometer;
- Sterile Footwear (see “Important Pathogen Control Guidelines”);
- Torch (preferably head torch). You may find it useful to use a ‘red light torch’. A red light enables you to keep your night vision. Make your own red light from a torch covered in several layers of cellophane or a red balloon;
- Map;
- Something to sit on;
- Pen or pencil; and
- A friend or group of friends.

6) At the Site

1. Walk to the site quietly pointing your torch beam at the ground – not at the area where the frogs are.
2. Sit down and take the air temperature, and then the water temperature.
3. Fill in the environmental parameters on the data sheet including:
   - date and time
   - air and water temperature
   - wind speed
   - cloud cover
4. If your torch is bright, don’t shine it directly onto your data sheet as it will temporarily blind you, but beside it so that you can see well enough to write.
5. When you’ve finished writing, turn your torch off or keep the light concealed from the area where the frogs are - the light can scare some species and stop them from calling.
6. By this time the frogs should have resumed calling as before and you can enter the species and numbers calling on your data sheet.
7. Now start your tape recorder and state clearly:
   - your name
   - site code
   - location
   - time
   - date and
   - weather conditions.
8. You may feel silly, make mistakes and have to do it a couple of times before you are happy with it. Don’t be too fussy with it – it is a scientific record, not a work of art!
9. Leave the tape recorder running for 2 to 5 minutes after you have finished talking, and point the microphone towards the frog calling area.
7) Filling out your Field Data Sheet

Much of the Field Data Sheets can be filled out prior to or after taking your recordings. However, please be sure to complete the section on 'WEATHER' at the time you undertake the monitoring.

### SAMPLING DETAILS AND SITE DESCRIPTION

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site Code</strong></td>
<td>If monitoring at the same site as last year, use the same site code. If you are monitoring at a new site, or are not sure of your site code, contact the Frogwatch Coordinator to confirm the correct site code. Site codes consist of three letter and three numbers, eg. ARA100.</td>
</tr>
<tr>
<td><strong>Date</strong></td>
<td>Record the date that you undertake your audio recording of frog calls.</td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td>Record the time that you undertake your audio recording of frog calls.</td>
</tr>
<tr>
<td><strong>Observers</strong></td>
<td>Include the names of all participants present. This is used to keep a record of participation in the program. It is also used to allocate Participation Certificates for volunteers, so if possible, please include full names with correct spelling.</td>
</tr>
<tr>
<td><strong>Group Name</strong></td>
<td>The name of a Landcare / Bushcare / Waterwatch or other group that you are associated with. (Or just leave blank)</td>
</tr>
<tr>
<td><strong>Site Name</strong></td>
<td>Give your site a descriptive name, e.g. “Snow Gums Dam, Aranda”. If monitoring at an existing Frogwatch site, use the same name as in previous years.</td>
</tr>
<tr>
<td><strong>Site Location Details</strong></td>
<td>Describe the location of your site as precisely as possible, so that the spot can be found again in the future. Also include directions to get there. E.g. Southern side of dam, Aranda Bushland Snow Gums Reserve. Access via Caswell Drive. You might also like to attach a photocopy of a map or print out an image from ‘Google Earth’ to show the location of your site.</td>
</tr>
<tr>
<td><strong>Easting and Northing</strong></td>
<td>These can be easily read directly from a street directory. By convention, the eastings will have 6 digits, and the northing will have 7 digits. Refer to the sheet entitled &quot;How to Calculate Eastings and Northings&quot; for further instructions.</td>
</tr>
<tr>
<td><strong>Grid Reference</strong></td>
<td>Calculate the grid reference using a street directory. If in doubt, take a photocopy, with the site location marked on it, and attach this to your field data sheet.</td>
</tr>
<tr>
<td><strong>Altitude</strong></td>
<td>If you know the approximate altitude of your site, please fill this in here. Otherwise, leave this space blank, and we will determine the altitude from a topographic map for you.</td>
</tr>
</tbody>
</table>

### HABITAT

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Approximate size</strong></td>
<td>Estimate the size (in m²) of the area that you are observing. If your site is along a creek or river, estimate the width of the stream in metres.</td>
</tr>
<tr>
<td><strong>Water depth</strong></td>
<td>Indicate the maximum depth of the water body in centimeters, by ticking one of the boxes.</td>
</tr>
<tr>
<td><strong>Type of habitat / waterbody</strong></td>
<td>Tick the box which best describes the type of waterbody you are monitoring.</td>
</tr>
<tr>
<td><strong>Land use</strong></td>
<td>Tick the box which best describes the land use in the vicinity of your site.</td>
</tr>
<tr>
<td><strong>Seasonality of waterbody</strong></td>
<td>Tick the box which best describes the seasonality of the waterbody.</td>
</tr>
<tr>
<td><strong>Water flow</strong></td>
<td>Describe the speed of water flow at your site at the time of monitoring. Eg. still, slow, fast.</td>
</tr>
</tbody>
</table>

How long have you known about the site?

Have you noticed any changes in frog numbers or activity over this period?

Has the natural environment of the site changed over this period?
GENERAL DESCRIPTION OF VEGETATION AT SITE

|aquatic vegetation| Describe any plants living in the waterbody. Include any algae, reeds/rushes or other submerged or emergent water plants. |
|overhead canopy| Are there any trees, shrubs or grasses hanging over the waterbody? Eg, Willows, Eucalypts, Casuarinas, grasses along the bank. |
|bank vegetation| Describe the vegetation on the banks of the waterbody. Eg, native or exotic grasses, trees, shrubs, rocks. |
|surrounding landscape vegetation| Describe the vegetation in the vicinity of your site. Eg, open woodland, dominated by eucalypts, parkland, whether it is regularly mown or not. |

WEATHER

|Wind conditions| Place a tick next to the box that best describes the wind conditions at the time of monitoring. |
|Sky conditions| Place a tick next to the box that best describes the sky conditions at the time of monitoring. |
|Air temperature| Record the air temperature in the box provided. To ensure an accurate reading, allow the thermometer to stabilise for at least a minute before taking the reading. Ensure the thermometer is completely dry when taking air temperature reading. |
|Water temperature| Record the water temperature in the box provided. To ensure an accurate reading, allow the thermometer to stabilise for at least a minute before taking the reading. |

SITE PLAN - DRAWING
A space is provided to draw a simple plan of your site. Please include:
- a cross at the point where you sit to take the recording
- the area of creek or water body
- any access route to the site and the name of any access roads
- any permanent landmarks that would assist someone reading this sheet in the future to find the exact spot that you sampled from (e.g. stands of trees, telegraph poles, pathways, rock outcrops etc.)
- a north arrow to indicate direction

INVENTORY OF SPECIES
- If you are able to immediately identify frog species on-site, record the species that you can hear. Otherwise, you can check your audio recording against the reference CD when you get back home.
- For each species you can hear, estimate the number of individuals calling. Use the following groupings: 1 to 5, 5 to 20, 20 to 50 or 50 to 100.
- If you are having trouble identifying the calls, the Frogwatch Coordinator will be able to help. Just make a note on your data sheet.

ADDITIONAL COMMENTS
Please include any extra comments that may be relevant. For example, you may like to comment on water quality, bank stability, other organisms and wildlife or unusual odours. It is also useful to note any Landcare or other on-ground works that you know have occurred at or near your site, including weed spraying, construction or other land disturbance, removal or planting of vegetation.
8) Return Documentation

Please return your:

- Completed Field data sheet(s);
- Site photographs;
- Audio recording of frog calls - please ensure that each audio recording is clearly labeled with your name, the site code and the date and time of recording. For a cassette tape write these clearly on the label. For digital MP3 recordings, you can put this in the file name information, or make a note of the relevant file name on your data sheets.;
- Completed Volunteer Activity Record Sheet and Participant Survey; and
- Ginninderra Catchment Group membership form if you have not already completed one - you only need to do this once.

Your results can be either posted to:
Dr Beth Mantle
ACT & Region Frogwatch Coordinator
Ginninderra Catchment Group
PO Box 446
Holt ACT 2615

Or dropped off at:
Ginninderra Catchment Group (office)
Kippax Health Centre
Kippax Place
Holt
Ph: 6278 3309

Electronic files of photographs and MP3 audio recordings can be emailed to the Frogwatch Coordinator at:
waterwatch@ginninderralandcare.org.au
(Please try to keep the size of individual files to <1MB. Alternately, electronic files can be burnt to a CD and mailed in as above.)

DUE DATE FOR RECEIPT OF DOCUMENTATION: FRIDAY 14TH NOVEMBER 2008

To have your results included in the Frogwatch Report, please ensure that we have your documentation by this date.

(But if for some reason, you do not get your results in by the due date, please do send them in anyway! The data will still be useful, and included in our records.)

Results will be collated from sites around the whole of the ACT, and put onto a map depicting distribution. All participants will be sent a copy of the final results. The information you have collected will be extremely useful for providing a snapshot of ACT frog populations, and for comparing with past and future surveys.
Australia's native amphibians are threatened by amphibian chytrid fungus, or *Batrachochytrium dendrobatidis*, which causes the infection known as chytridiomycosis. Chytrid fungus is associated with amphibian population declines in eastern Australia, New Zealand, USA, Panama, Ecuador, Venezuela and Spain, and is now present in the ACT.

There are serious implications when Chytrid fungus is introduced into frog habitats!

The potential impact of Chytrid fungus in the ACT is of concern. It has been associated with the recent disappearance of the Spotted Tree Frog (*Litoria spencerii*) in the Kosciuszko National Park, and is listed as a 'key threatening process' under the *Environment Protection and Biodiversity Conservation Act 1999*.

Measures to reduce the threat of Chytrid fungus and other frog pathogens are essential!

Chytrid fungus can be easily spread, so it is essential for all Frogwatch participants to minimise the potential for the introduction and spread of this and other pathogens. Please read these guidelines and take care to follow them while you are participating in the ACT Frogwatch Census.

GENERAL GUIDELINES

- Do NOT handle or disturb frogs in any way - pathogens may be transmitted very easily through their sensitive skin. Some frogs can also secrete toxins that may harm you.
- Try to avoid coming into direct contact with any water-bodies while you are recording the frog calls.
- Think safety first. Take a strong torch so that you can see what you are doing.
- If you find sick or injured frogs, please contact the Ginninderra Catchment Group immediately on 6278 3309.
- Ensure that footwear and equipment is thoroughly cleaned and sterilised before visiting your Frogwatch monitoring site, or when travelling between different Frogwatch sites - refer to the Sterilisation Techniques detailed over the page.
- Cleaning and sterilisation of footwear and equipment is particularly important if it has been worn or used outside of the ACT or if you are travelling across different water catchments or otherwise discrete sites.
STERILISATION TECHNIQUES

Ideally, it is recommended to use new footwear (eg gum boots) that has not been worn to wet areas outside the ACT before when entering potential frog habitats. Use this footwear only for this purpose.

If this is not possible, all footwear and other equipment must be sterilised before visiting your frogwatch site. Do not go to wet areas (in the Brindabellas in particular) without sterilising footwear first. Three techniques for sterilisation are described below:

**Sterilisation by thoroughly cleaning and drying**

- Clean footwear and other equipment by scraping, picking and washing out all dirt from the soles and sides.
- Place in direct sun, in an upright position for a minimum of 10 minutes. Then on each side and soles upward for 10 minutes each.

**Sterilisation using alcohol**

- Clean footwear as above, and then brush or spray sides and sole with 70% alcohol or stronger. Methylated spirits is adequate.
- Let the footwear dry, preferably in direct sunlight.

**Sterilising using bleach**

- Clean footwear and other equipment by scraping, picking and washing out all dirt from the soles and sides.
- Dilute bleach as directed on the bottle for floors. Wash footwear with the solution up to the lower end of the tongue (the inside need not be wetted).
- Rinse and dry, preferably in direct sunlight.

*** PLEASE NOTE: Bleach may harm leather - it is recommended to polish leather footwear once it is dry to minimise any harmful effects.
Eastings and northings allow us to locate a particular point on a map. An easting has 6 digits and a northing has 7 digits. By convention, we state the easting, and then the northing.

To calculate:

1. Locate your frog monitoring site on a street directory map.

2. Notice the gridlines printed across the map - these indicate increments in the eastings and northings across the map, much like a ruler indicates millimetres. On the map shown below, the gridlines are increments of 250 units. (See notes on sides of the map below.)

3. You will also notice that there are small numbers printed at regular intervals along the edges of the map according to the easting and northing gridlines (e.g. 691 E). These numbers have been abbreviated; 691 E actually represents the easting line of 691000 - see the number circled in the diagram below.

4. Remember: an easting consists of 6 numbers (e.g. 691000 E) and a northing consists of 7 numbers (e.g. 6103000 N).

EXAMPLE. For the site marked X below:

Easting calculation. The X lines up with the bottom axis at about one-third of the way between 691250 E and 691500 E. The easting is therefore 691335 E.

Northing calculation. The X lines up with the side axis at about one-half of the way between 6103000 N and 6103250 N. The northing is therefore 6103125 N.