



# Champaign County Frog Call Survey Protocol

## Introduction

Since 2007 we have partnered with the Urbana Park District and the East Central Illinois Master Naturalist Chapter to monitor frogs and toads in our area through calling surveys. These declining amphibians are an integral part of our ecosystem and are great indicators of environmental health. Frog call surveys give us scientific data on presence or absence of a species and general abundance of the population.

## Goals

Our goal is to establish Frog Calling Survey areas throughout the Champaign County area, so that amphibian abundance and distribution data can be collected over many years. Data from the Frog Calling Survey will be used to guide conservation planning, local land management, and land protection.

## What is a Frog Call Survey?

A Frog Call Survey is a rather simple endeavor. Participants only need to learn the unique calls of the 12 species of frogs and toads that occur in the Champaign County area. Observers attend one late winter educational meeting, one early spring field training, and then listen for frogs on evenings in the spring. Each survey visit will last for about one to two hours. You will soon become amazed by the vast richness of amphibian life at night.

The Frog Call Surveys begin March 1 and go through July 31 in each year. We ask that all information be reported by July 31.

## Training

In order to become a Frog Call Survey Monitor you must attend one winter and one spring training session in order to learn the frog and toad species of the area, their calls, and the monitoring procedures. Winter workshops are offered in February and spring trainings are offered in March. Plan to attend a workshop each year, in order to brush up on your skills and learn about other amphibian or reptile monitoring projects.

Make a commitment to learn the frog and toad calls before the first survey. It is acceptable to bring a tape or disk of the calls to help you identify what you hear, as long as it is played softly, or is played in the car, so that you do not encourage the real frogs to call. Playing calls could bias survey results.

## **Establishing a Monitoring Area**

If you are a returning monitor, it is best for you to continue monitoring the same sites as last year. Feel free to add new sites to your list if you want to do more.

For those who need to establish a new monitoring site or take ownership of an existing one, the winter workshop is the place to do so. Experts familiar with your area will be present at the workshop to help. They can suggest sites that are of high priority for scientific or land management reasons. You may also monitor a wetland or water body of particular interest to you.

Frogs and toads breed in ponds, swamps, lakes, etc., with a preference for temporary or semi-permanent waters. Although a temporary water body that usually dries up in a few months may appear to be a poor choice for breeding, it may in fact be an excellent choice because of the absence of tadpole predators such as fish.

Within your monitoring area, we recommend that you pick two listening points, or locations, for monitoring. This will require one or two hours of your time on each night you monitor. If you choose more than five locations (listening points) you may not be able to sustain the effort in the future. However, the number of locations you choose is up to you – more three or fewer is a good number to start with. It is important that you choose locations that are at least 200 meters apart.

Each land agency has its own procedures for allowing night access to the preserves. You can learn the procedures by attending the workshop and getting to know employees of the preserve or park.

## **Finding the GPS coordinates for each monitoring point**

When you record your data, it would be helpful to write down the GPS coordinates for each monitoring location. This can be done the first visit. There is no need to record the coordinate each visit if you are in the same location. The two best ways to do this are to use a hand held GPS unit or to estimate the coordinates using one of several internet sites that we discuss below.

Hand held GPS units can be purchased for \$100-200 from outdoor supply companies. They are easy to use and the most accurate means of establishing coordinates for your monitoring locations. Additionally, some entities such as the Champaign County Forest Preserve District may have units available to loan out.

To use the internet option, go to <http://www.topozone.com> or [www.googleearth.com](http://www.googleearth.com). By simply finding your site and pointing the mouse to your location, you can get GPS coordinates. We prefer that you report the coordinates in decimal degrees, so be sure to click on this option. You may also include a very detailed map of your locations if you are submitting handwritten data, and the person entering the data will find the GPS coordinates. However, it is highly preferred that you conduct this step yourself if at all possible.

## Conducting the Survey

### Suitable Weather Conditions

When suitable weather conditions for monitoring have arrived, time your arrival at the first location (listening point) so you can begin monitoring **one half hour after sunset**. Suitable weather conditions for amphibians will generally be weather conditions deemed to be marginally suitable for humans. These include periods following a rain or periods of high humidity. Warmer days are good times for monitoring, especially in early spring. We suggest emailing others on the Frog Call Survey list when you are hearing frogs.

Guidelines for Suitable Monitoring Weather	
Period	Minimum Air Temperature (degrees Fahrenheit)
March 1 - April 20	45 (can be lower for wood frogs)
May 10 - May 30	55
June 20 - July 10	65

Note that these are guidelines. If the air temperature is a few degrees below the guidelines and the frogs appear to be actively chorusing, go ahead anyway. We have to make our decision on when to monitor on the basis of a weather forecast. However, the male amphibians may be stimulated to call on the basis of the water temperature. Once the sun has set, the air cools more rapidly than the water, and the frogs may still be responding to the heat of the afternoon. For this reason, air temperature is probably not the best indicator of calling activity. But measuring water temperature is something that can only be done upon arrival; and sometimes can't be done at all if there is no access to the shoreline. If air temperature is not approaching the minimum suggested temperature, wait until it does, even if it is past the recommended date.

### Beaufort Wind Scale

Monitoring should **not** be conducted when the Beaufort wind scale exceeds 3. Strong winds will affect your ability to hear the calls of frogs and toads.

Beaufort Wind Scale	Wind Speed (mph)	Description	
0	<1	CALM:	smoke rises vertically
1	1-3	LIGHT AIR:	rising smoke drifts, weather vane inactive
2	4-7	LIGHT BREEZE:	leaves rustle, can feel wind on face
3	8-12	GENTLE BREEZE:	leaves and twigs in constant motion, small flags extend

4	13-18	MODERATE BREEZE:	moves small branches, raises dust and loose paper ( <i>too windy to monitor</i> )
5	19-24	FRESH BREEZE:	small trees in leaf begin to sway ( <i>way too windy to monitor</i> )

## Other Preparations

Be sure that you are following any required access procedures. These vary from landowner to landowner. You will learn of any required procedures at the training workshops.

Bring the appropriate equipment --- data sheets, rubber boots or old shoes, rain gear, camera (optional), audio recorder & blank cassette tape (optional; do not play tapes to stimulate calling), thermometer, pencils (more than one!), flashlight, GPS unit (optional), permit (if required in your county). If you are entering forest preserve land, a whistle (in case you and your partner become separated) and a cell phone are important aids.

Since you will be conducting these surveys in the dark, you are encouraged to bring an assistant along to share in the experience. This person can help you find the sites, document some kinds of information, and substitute for you in case of an illness.

## Recording Weather Data

The Data Sheet provides blank spaces for all of the necessary data:

- At each location (listening point), record the wind strength using the Beaufort wind scale.
- At each location, record the time and measure air temperature at ground level.
- At each location, record the percent cloud cover.

While you are waiting to record the temperature, note the appropriate weather history.

Note that if conditions do not change during the evening, you may use your initial wind scale, cloud cover, and Sky Code estimates for all locations, rather than taking the time to re-estimate at each location.

Weather Bureau Sky Code	
CODE	DESCRIPTION
0	Clear, few clouds
1	Partly cloudy (scattered) or variable sky
2	Cloudy (broken) or overcast
3	Rain
4	Fog or smoke
5	Drizzle
6	
7	Snow
8	Showers (intermittent)

## Recording Optional Data

Optional additional information to note at each location: A general evaluation of water level in the wetland at the time of the survey (if possible). Any major changes to the breeding site since the previous survey should be noted. Any major changes to the habitats adjacent to the monitoring location since the previous survey should also be noted.

## Listening for Calls

Approach your survey area very quietly and without too much light. Wait 5 minutes before recording any call information. This will allow time for the frogs to relax in case you frightened them while coming to the site. Listen at each station for **five minutes** and record the Call Index (call intensity) for each species on the data sheet. Please record the highest Call Index that you hear during that five minute period. If noise from traffic or other sources interferes with listening, extend the listening period for another five minutes.

Call Index Definitions	
0	No calls were heard and no individuals were seen.
1	Individual calls can be counted; there is space between calls.
2	Some calls are overlapping; but individuals are still distinguishable.
3	Chorus is constant, continuous and overlapping; impossible to count individuals.
4	The number 4 can be used to indicate that a species was seen but not heard during the survey.

## Difficult Species to Identify

Scientists involved with this project recommend that we report the two gray tree frog species generically as "gray tree frog" because of the known difficulty in distinguishing their calls.

A number of other species are of special concern because of their rarity. If you think you have heard **wood frogs, gray tree frogs, pickerel frogs or Plains leopard frogs** you are urged to tape the calls or take a photograph and submit as outlined above.

Any time that documentation of a species is made by photos or audio recordings, please denote under the "Comments" section of the datasheet.

## Entering the data

The deadline for entering your data is **July 31 of the year it was taken**. Please do not forget to enter or send in your data – we can't use it if we don't have it!

We hope to have an interactive database submission form online soon. In the meantime, you can send your sheets to Dan Olson, Director of Natural Resources, Champaign County Forest Preserve District, P.O. Box 1040, Mahomet, IL, 61653 or email (or pdf) to [dolson@ccfpd.org](mailto:dolson@ccfpd.org). Please remember to always keep a copy for yourself in case of loss.

When you enter or send in your results, it is important to describe the route in a manner that will allow others to know precisely where your locations (listening points) are located and where the wetland is in relation to the location. The best way to do that is to photocopy or draw a good map and draw in your locations and wetlands. For handwritten maps, indicate where each location is in relation to landmarks, such as road intersections, streams, bends in roads, or buildings.

Indicate the type of wetland; for example, is it a vernal pool (i.e. temporary), a pond in a wood lot, a marsh, a bog, a fen, a creek, a slough, a farm pond, a retention pond, a city park pond, etc.

### **Very Important Final Note**



*Do NOT harass, take, or move any animals while monitoring. It is important not to disturb the habitat of these animals. Be aware that taking animals from forest preserves without a permit is punishable by law.*