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CITY OF FORT COLLINS NATURAL AREAS PROGRAM AMPHIBIAN CALLING SURVEY - INSTRUCTIONS



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BACKGROUND & PURPOSE

Researchers and conservationists have expressed concern over the worldwide decline in amphibian populations, and changes that have been observed within those populations. Amphibians are often considered to be bio-indicators of environmental health so knowledge about their status is important for a better understanding of "the big picture." Across the United States, these concerns have led to the creation of a variety of amphibian monitoring programs at national, regional and local levels. Knowing the location and approximate population size of a given species is the first step in tracking any declines (or increases) associated with the species, so many monitoring programs focus on gathering this baseline information. Once the location and size of a population is known, more detailed studies tracking trends in population size and health can be conducted.

The Natural Areas Program continually collects information on wildlife in natural areas, and that information is used as the basis for management decisions. The amphibian calling survey began in 2008 and has been a huge success and great opportunity for volunteers to help the Natural Areas Program collect information.

SURVEY OVERVIEW

The U.S. Geologic Survey (USGS) has set up a standardized North American Amphibian Monitoring Program. Additionally, FrogWatch USA is a partnership monitoring program with the USGS and the National Wildlife Federation, and is designed for volunteers. The surveys you will be conducting for the Natural Areas Program will closely resemble these standardized survey methods, except that we have made slight modifications to better tailor the project to Natural Areas Program goals.

- **Survey sites:** You will sign up on-line through our volunteer information website (Volgistics) to survey Natural Areas - this is a first-come, first-serve basis so if you have a strong desire to survey a particular natural area, please sign up early! While conducting your surveys, you can either: 1) stand next to your vehicle at a parking area, or 2) walk into the Natural Area to survey closer to ponds, wetlands, or streams and create your own survey route within your selected Natural Area. How you choose to survey is up to you. Keep in mind that for national surveys, the rule of thumb is to locate survey stations $\frac{1}{2}$ mile apart. However, in some cases noise from traffic or obstacles may make it more difficult for you to hear, or you may wish to sample an area more extensively. Please do not bring dogs with you while sampling.
- **Survey periods:** Because not all amphibian species and individuals breed at the same time of year, volunteers will need to monitor at different times for

different species. We have identified 3 time periods (and one optional 4th period) - natural areas will need to be sampled once within each period or window of time. When you sign up on-line for sites, you will sign up to survey a natural area for one of the periods. If you want to survey a natural area for all three (or four) periods, just sign up for three (or four) months in a row. Likewise, if you can only commit to surveying during one or two of the survey periods, only sign up for that time and other volunteers can fill the other shifts.

Survey Period	Dates
1	April 4 - April 30
2	May 1 - May 31
3	June 1 - June 30
4 (**optional**)	July 1 - July 31

- **Survey conditions:**
 - Calling surveys can begin 30 minutes after sunset or later. No matter what time you start, your survey must be completed before 11:00 p.m.
 - Suitable weather conditions for surveys:
 - Temperature: 42°F is the minimum (most species will only call at higher temperatures)
 - Wind: <19mph; <5 on the Beaufort Wind Index (wind greater than this will make it difficult for you to hear calls)
 - Precipitation: light rain or drizzle is ok; constant rain is not (heavy rain will make it difficult for you to hear calls)
- **Data reporting:** This year you will be entering the results of your surveys on-line at a Citizen Science website hosted by researchers at Colorado State University's Natural Resource Ecology Lab. You'll also be able to view the results of everyone else's surveys. Note that you can add information for any location so if you survey other areas on your own (e.g., in your backyard!), you can enter that information into our database.

PRE-SURVEY PREPARATIONS

1. Register on the CitSci website and request to join our project (SEE "WEBSITE STUFF")
2. Sign up for a natural area and time period to survey on the Volgistics website (SEE "WEBSITE STUFF")
3. Visit your Natural Area before you plan to survey

It is very important that you visit the Natural Area(s) you are going to survey ahead of time during the daylight so that you can get to know the area. Even with a flashlight, walking around in the Natural Areas at night can be confusing if you have never been there before. Please conduct a dry-run before you survey for the first time and contact Susan Schafer with any concerns or questions before you conduct the first survey. If you sign up for a Natural Area that is not currently open to the public, please make sure to display your dashboard card during your dry-run.

4. Make sure you have all the survey materials

- Volunteer button
- Survey instructions
- Field data sheets (print these out from the CitSci website)
- Natural Areas map
- Pencils
- Dashboard card
- Frog and toad calls CD
- Timer (you can use your watch)
- You may also want...
 - Flashlight or headlamp
 - Hip boots, waders or waterproof boots
 - Warm, water resistant clothing - long pants and long sleeve shirt (dress appropriately!)
 - Reflective vest or other clothing (for safety)
 - Bug spray
 - Clipboard to hold your data sheet
 - GPS unit (if you have one and want to use it)
 - Audio recording device (in case you are unsure of calls and want to record them to compare with your CD)

5. Make sure you have a buddy to survey with

Please don't survey natural areas alone! Coordinate with other volunteers or bring along friends and family members.

6. Know the calls of the frogs and toads

Make sure you have studied the calls of frogs and toads using your CD and feel comfortable identifying the calls. There are a number of websites that you can use to get additional information (see "Additional Resources" section below).

7. Make arrangements for your pets

Please remember that you should not bring pets with you to do surveys. They can make noise that will distract you or prevent you from hearing amphibian calls.

THE ACTUAL SURVEY

1. **Pick a time to survey the natural area during the survey period you signed up for when conditions are appropriate for conducting surveys**
Remember to pick a time to sample when it is after dark, and when weather conditions are favorable (see "Survey conditions" above for more details). Warm, cloudy evenings with little or no wind and high humidity (even drizzly) are ideal. Many species will be calling loudest right after a rain. Humidity and cloud cover are not critical, but temperature is; a sudden drop in air temperature will cause many amphibians to cease calling. If part way through a survey you find that conditions deteriorate significantly (e.g., rain begins, temperature drops, or wind increases), stop the survey and complete it at the soonest opportunity (within 2-3 days if possible). Please make note of these conditions. Anytime you are surveying on Natural Areas properties, **please display your dashboard card so that it is visible** - if Rangers are patrolling the area this will give them a good clue of why somebody is out on the Natural Areas at night.
2. **Listen for a minimum of 5 minutes for calls at each survey location**
Approach a listening point so as to cause minimal disturbance. The arrival of a car or person on foot may cause frogs to stop calling for a short time. Wait a few minutes to allow frogs to resume calling before starting your survey. Remain as quiet as possible to avoid disturbing the frogs; they may stop calling if observers make too much noise. Listen for all calls audible from your listening point, not just those emanating from a particular pond or side of the road. If there is a major noise disturbance, you may break the listening period to avoid sampling during the excessive noise. If such a time out is taken, please note it in the comments section on the datasheet. Resume the listening period, finishing up with the remaining time after the major disturbance ends. You're listening for different species (present or absent on your data form) and the relative call index for each species you hear. The relative call index is:
 - 1 - Individuals can be counted. There may be space between calls.
 - 2 - Calls of individuals can be distinguished, but there is some overlapping.
 - 3 - Full chorus of calls. Constant, continuous, and overlapping.
3. **Record your observations**
 - Fill out your field data sheet for each survey location (see more on this topic in the CitSci website section of "WEBSITE STUFF".)
 - Mark the location of your surveys on a map or make notes about where each survey occurred (you'll enter coordinates from the Coordinate

Table). Or, if you're using a GPS unit you can write down your coordinates or mark a waypoint at the location.

- Feel free to record comments on other wildlife species observed or other notable happenings in the Natural Areas in the Comments section of your data sheet.

4. Verify records of rare or unusual occurrences

If you are unsure of a frog call that you heard, you may be able to record it using a tape recorder or other recording device if you have one available, and compare it with your CD. If you hear a call that you can't identify with confidence, make a note on your data sheet and record the calling index associated with the species. Call or email Erica Saunders the next day, and a staff member can conduct a follow-up survey to try to confirm the call. Also contact Erica if you think you hear a call from a species not on your data sheet.

5. Enter your field data onto the CitSci website (SEE "WEBSITE STUFF")

Please enter your information into the CitSci website no later than one week after each survey period ends (e.g., for the April survey, enter by the first week of May). Erica will be checking to see which sites have been completed and will send additional surveyors to sites that didn't get surveyed.

WEBSITE STUFF

This year we are trying to manage this program completely on-line. It's the first year we have done this so there may be some bugs - let us know if at any point you have questions! There are actually three different websites - you will have to use two of them (Volgistics and CitSci) and you may choose to use the third (Frog Survey Resources). It might be a good idea for you to Bookmark these sites or add them to your Favorites on your web browser.

Site	URL	What's this for?
Volgistics	http://www.volgistics.com/ex/portal.dll/?FROM=14239	Volunteer Information Center <ul style="list-style-type: none"> • Sign up for natural areas to survey • Log your volunteer hours
CitSci (Citizen Science)	www.citsci.org	Data Center <ul style="list-style-type: none"> • Data entry • Data viewing
Frog Survey Resources	www.fcgov.com/naturalareas/frogsurveyresources.php	Resource Page <ul style="list-style-type: none"> • Copies of presentations, instructions, coordinate table

1. THE VOLGISTICS WEBSITE

Signing up for a natural area to survey

You already have an account on the Volgistics website - either through other volunteer projects, or you created one when you filled out the volunteer application. You will sign up for natural areas to survey on this website.

From the main page

(<http://www.volgistics.com/ex/portal.dll/?FROM=14239>), sign in and then click on "My Schedule". The calendar will show a "Help Wanted" icon for volunteer duties you are eligible for (if you are only volunteering for the frog survey you will only see those assignments). **The frog surveys are listed on the first Sunday of each month (April 5, May 3, and June 7).** Click on the "Help Wanted" icon for that day and you will see the list of available natural areas. When you find a natural area you would like to survey, click on the green "Schedule me!" button. Remember that you can actually complete your survey ANY DAY of the month - we just had to pick one day in order to get it to work with the calendar. If you want to survey the same natural area for all three months, you will need to schedule yourself in each month.

Entering Volunteer hours

From the Volgistics homepage, either click on "Post your hours" or select the "Time Sheet" tab. There are instructions that walk you through entering your time. Thanks for recording this!

****We have included a "User's Guide to Volgistics" on the Frog Survey Resource page of the Natural Areas website.**

2. THE CIT SCI (CITIZEN SCIENCE) WEBSITE

The CitSci website is a global network of citizens collecting information that is hosted by researchers at Colorado State University. Our project is housed on this site.

Registering & Joining the project

The first things you need to do are register and join our project:

- Go to www.CitSci.org
- From the menu on the left side of the page, click on "Register". Fill in the required information and click "Submit". You have just created your profile. (Note that there is a Registration tutorial under the "Tutorials" button if you are having trouble.)
- Under User Options click on "Join a Project". Select the project named "City of Fort Collins Natural Areas Program Amphibian Survey" and request the role of "Contributor". You can send a message to the

project manager. For this project that's Erica Saunders - she will get an email with your request to join the project...adding a message like, "I just attended the frog training" will make it a little easier for her.

- Once Erica adds you as a contributor to this project, you'll receive a confirmation email. At that point you will see this project appear under "My Projects" on your user profile page.

Printing data forms & Entering data

When you have the project page open, you'll see a section for "Data Entry Forms." You have the option to "Print" the form or "Enter Data" (you'll probably want to do both of these).

There are three main sections to the data form:

- Date of the observation: You'll fill out the date of your survey, the recorder (that's you!), "Authority" (if you're out with an expert volunteer, or you can put yourself, or you can leave it blank) and any comments you have (e.g., other wildlife heard or seen).
- Location information: The Name is the first thing (just enter the name of the natural area you surveyed). The rest of the information is based on Latitude and Longitude coordinates for the location you surveyed. If you have a GPS unit and want to use it, that's a great way to get coordinates (if you are unsure how to do this but would like to try, contact Erica Saunders and she can help you out). Otherwise, we've made a table of coordinates for locations at each of the natural areas. Simply find the description location that best matches the location you surveyed and enter those coordinates. Make sure you check the Datum: "WGS_84" and for Accuracy just put "50".
- Organism information: Here is where you'll record the species you heard and the relative call index. Remember that if you think you heard a species not on the list, contact Erica Saunders.

Viewing project data

One of the really cool things about this CitSci website is that you can view the data that all the other volunteers enter. In the menu on the left side of the page, click on "Make a Map". In the map Legend (right side of the page) click on "Edit" and add the new species locations you want to view (by navigating to a new organism in the Organism Layers) or view all the records for our project (by navigating to our project in the Project Layers).

3. FROG SURVEY RESOURCE PAGE

This page (www.fcgov.com/naturalareas/frogsurveyresources.php) has copies of the training presentations, instructions, and the table of coordinates in case you want to review or need additional copies. It also has links to the other websites.

SAFETY NOTES

1. Please don't conduct surveys on Natural Areas by yourself. It's a lot safer to go with a partner - coordinate with another volunteer or bring along friends and family members.
2. Please use your own judgment and terminate the survey if you ever feel like your safety is threatened in any way.
3. Please take precautions if you are planning on walking around the Natural Areas at night. Always have a flashlight or headlamp with you and pay attention to your footing. Dress appropriately - it can be cold and wet out there!
4. There are many species of wildlife that use the Natural Areas at night. Be aware that animals may be there. If you are surveying a Natural Area with prairie dog towns, wear long pants and spray your pant legs with insect repellent (prairie dogs can carry fleas that cause plague).
5. Be aware that West Nile Virus (WNV) has been documented in Fort Collins in recent years. WNV is a disease that can be transmitted to humans by mosquitoes. Although all age groups are at risk for WNV and it can be fatal to anybody, individuals over the age of 50 and those with compromised immune systems have the highest risk of severe disease. Please take precautions to minimize your risk of exposure, such as wearing insect repellent and covering your skin with clothing as much as possible. You can find more information regarding WNV at this website:
<http://fcgov.com/westnile/overview.php>

ADDITIONAL RESOURCES, REGIONAL & STATE DATABASES

Hammerson, G. A. 1999. Amphibians and Reptiles in Colorado: A Colorado Field Guide, 2nd Edition. University Press of Colorado, Niwot, Colorado.

Colorado's Herpetofauna Atlas

<http://ndis.nrel.colostate.edu/herpatlas/coherpatlas/>

This website has identification, habitat, breeding and calling information on all frogs and toads in the state. Visitors can register as amphibian and reptile observers and add information to the State's database of herps in Colorado.

****Note that the City of Fort Collins will provide information from our survey to the Colorado Division of Wildlife for inclusion in this database****

FrogWatch USA

<http://www.nwf.org/frogwatchUSA/>

This website has links to species information, but it is a national website so many of the species may not exist in Colorado. You can register as a volunteer and add data to a national database on frog and toad distribution in the United States.

Thanks for your help!!

