



Adopt-a-Frog Pond

Selecting a site...

Your frog pond can be any spot where you've seen or heard frogs recently—from your backyard ornamental pond to your river bottom hunting lease to the wet spot at the back of the school yard. Many public parks might be amenable to having you adopt a

wetland on their property—just be sure to obtain permission first if you'll be entering the property after hours or if you want to get into some wetland habitat that's normally off-limits. If you'll be working on private land, then you'll first have to obtain the

written permission of the landowner. A permission form is enclosed (page 33). Please submit this form even if you are monitoring your own private property. Mark your site location on a map if possible.

What you need to get started...

- this information sheet, plus a data sheet and map of your frog pond location
- a pencil and clipboard
- a flashlight
- a field guide that depicts the amphibians that occur in your area. See page 37 for suggestions
- a tape recorder and a blank tape for recording calls that you do not recognize
- a resource for identifying frog and toad calls (see page 37)
- an outdoor thermometer. Other gauges would be useful if available, including an anemometer (for measuring wind speed), a hygrometer (for measuring relative humidity), and a barometer (for measuring barometric pressure). See data guidelines on page 35 for suggestions regarding these measurements.



Rio Grande Leopard frog

How to conduct your counts...

Your basic goal is to visit your frog pond as many evenings as possible to listen for frogs and toads calling. Surveys may be conducted whenever anurans are calling, but moonless evenings following a rainy period are especially popular among our

moist-skinned friends. At a minimum, you should try to visit your site at least once/month between February and November.

You'll want to begin listening about 30 minutes after dark. First, record environmental



Adopt-a-Frog Pond

conditions on the form. The data guide provides suggestions for obtaining this environmental data.

Now, listen for the frogs and toads. Listen for five minutes. Record each species you hear, as well as an indication of its abundance. Abundance is estimated by a call index (CI) based on three levels:

- CI = 1 – only a few individuals of the species are distinctly heard;
- CI = 2 – calls of several individuals overlap;
- CI = 3 – so many individuals of the species are calling that calls are overlapping and indistinguishable.

(See page 35 for more information). If you cannot identify a

call at the time, then you can record it, compare it to the call resources you have at home, or send it to TPWD and we can help you identify it. Space is also provided if you hear any nocturnal birds and want to record them on your data sheet.

You can listen as long into the evening as you like (some species may begin calling later than others, more frogs may begin calling as it grows darker, etc.). For each five-minute interval you can create new columns on the form under Sample 2, Sample 3, etc. Research suggests that listening for at least a total of 15 minutes will detect most species on a given night.



Bullfrog

keep recording data in sequential columns of your data sheet. If your site is in your backyard, then go ahead and make multiple copies of the form and record data every night!

Feel free to write down any comments or additional observations you have. If you would like to adopt more than one site, then simply mark that site on your map and start another data sheet.

Send your data sheets and maps into TPWD by **DECEMBER 31**. We'll compile all the data, send you a report, and assign a number to your adopted site.

Then we hope you'll continue to monitor the activities of the frogs and toads at your pond for many years to come.

Gulf Coast toad



Again, the more often you can visit the site, the more that you and we will learn about the amphibians in your area—simply



To aid us in conserving paper and reducing printing costs,
you may wish to photocopy this page.



Adopt-a-Frog Pond • Nocturnal Call Count Data Sheet

Please feel free
to photocopy forms.

Site number: _____ County: _____ Wetland type: _____
assigned by TPWD

Name: _____ Daytime phone: _____

Address: _____ Evening phone: _____

Fax: _____

City/St/Zip: _____ E-mail: _____

Location of site: _____ Total volunteer time: _____
(Lat-Long or distance and directions from nearest town) (# people X # hours)

INSTRUCTIONS: Please use this sheet to record data each night you visit your adopted wetland site. There is no limit to the number of times you may record data at each site; however, we encourage you to visit the site at least monthly between the months of February and November. Use a separate data sheet for each site. See page 35 for suggestions for completing the data sheet. Mark site location on a map if possible.

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Date					
Time					
Air Temp °F					
Water Temp °F					
Wind					
Sky					
Is moonlight visible? Y or N					
Water Level					
Barometric Pressure					
Relative Humidity					
Rainfall in past 72 hours? Y or N/Amt					
Background Noise					
Frogs and Toads – Species Name	CI Value	CI Value	CI Value	CI Value	CI Value
Nocturnal Birds – Species Name	# Heard	# Heard	# Heard	# Heard	# Heard

Please return data sheets and map by DEC. 31 to: Texas Amphibian Watch, TPWD, 4200 Smith School Rd., Austin, TX 78744



The Texas Parks and Wildlife Department maintains the information collected through this form. With few exceptions, you are entitled to be informed about the information we collect. Under Sections 552.021 and 552.023 of the Texas Government Code, you are also entitled to receive and review the information. Under Section 559.004, you are also entitled to have this information corrected. www.tpwd.state.tx.us PWD 1157B-W7000 (3/07)



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Please feel free
to photocopy forms.

Site number: _____ County: San Jacinto Wetland type: Lake, 25-acre, man-made
assigned by TPWD
 Name: Ima Prince Daytime phone: 123-456-7890
 Address: 201 Hopalong Way Evening phone: 123-098-7654
 City/St/Zip: Coldspring, TX 78542 Fax: 123-456-7899
 E-mail: toadlove@aol.com
 Location of site: Double Lake Rec. Area, Sam Houston Nat'l Forest, 4 mi S of Coldspring Total volunteer time: 5 hrs.
(Lat-Long or distance and directions from nearest town) (# people X # hours)

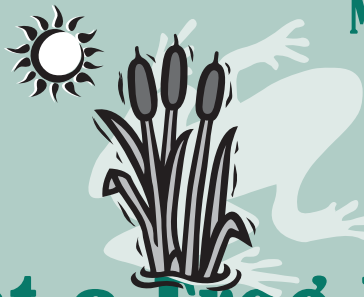
INSTRUCTIONS: Please use this sheet to record data each night you visit your adopted wetland site. There is no limit to the number of times you may record data at each site; however, we encourage you to visit the site at least monthly between the months of February and November. Use a separate data sheet for each site. See page 35 for suggestions for completing the data sheet. Mark site location on a map if possible.

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Date	2/10/2000	3/3/2000	4/1/2000	5/9/2000	6/6/2000
Time	7:30 pm	8:00 pm	8:00 pm	9:00 pm	9:30 pm
Air Temp °F	51° F	57° F	62° F	75° F	80° F
Water Temp °F	55° F	58° F	60° F	67° F	78° F
Wind	B1	B2	B2	B1	B0
Sky	2	0	1	2	1
Is moonlight visible? Y or N	N	N	N	N	Y
Water Level	above avg	average	average	above avg	above avg
Barometric Pressure	2985	3051	3002	2896	2981
Relative Humidity	70%	60%	75%	80%	80%
Rainfall in past 72 hours? Y or N/Amt	Y- 0.5 in.	N	N	Y- 1.5 in.	Y- 0.5 in.
Background Noise	low	low	low	low	med
Frogs and Toads – Species Name	CI Value	CI Value	CI Value	CI Value	CI Value
spring peepers	3				
upland chorus frog	2				
cricket frog	1	2	3	3	2
southern leopard frog	1	1	2	2	1
bullfrog		2	2	2	1
Gulf coast toad			1	3	2
green treefrog			1	3	2
gray treefrog			2	2	1
Eastern narrowmouth toad					2
Hurter's spadefoot toad					3
Nocturnal Birds – Species Name	# Heard	# Heard	# Heard	# Heard	# Heard
barred owl	1	1	1	1	1
screech owl			2	2	2

Please return data sheets and map by DEC. 31 to: Texas Amphibian Watch, TPWD, 4200 Smith School Rd., Austin, TX 78744



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Adopt-a-Frog Pond

By conducting this activity you will be participating in a volunteer nationwide malformation monitoring effort. Knowing where malformed frogs are found is the first step towards determining possible causes of frog malformations. To estimate the number of malformed frogs in a population, IT IS NECESSARY TO COUNT BOTH THE NUMBER OF MALFORMED FROGS AND THE NUMBER OF NORMAL FROGS FOUND. With your help, scientists will have a more complete picture of population levels and the number of malformed frogs in each area. You will be collecting data that is useful to Texas Parks and Wildlife Department and to NARCAM, the North American Reporting Center for Amphibian Malformations (<http://frogweb.nbii.gov/narcam/>). They are keeping track of the information volunteers and scientists find about malformed frogs.

What you need to get started...

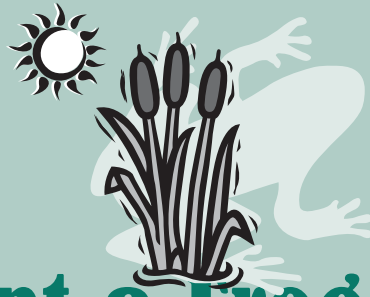
- ✿ this information sheet, several copies of the data sheet, and a map of your frog pond location
- ✿ a clipboard and pencils
- ✿ a small to medium aquarium net
- ✿ several buckets or small aquaria with lids
- ✿ hand-held magnifying lens (optional)
- ✿ appropriate clothes— be sure to wear old sneakers or a pair of mud boots, because amphibian habitat can be muddy!
- ✿ a field guide that depicts the amphibians in your area. See page 37 for suggestions.
- ✿ optional— a camera to record any unusual amphibians or abnormalities you encounter

Licensing Rules

Texas Parks and Wildlife Department requires that anyone who captures a nongame animal be licensed or permitted. If you would like to participate in an activity that actively involves capturing amphibians (such as malformation monitoring), then you have two options:

1. You can purchase a State of Texas Hunting License (a reduced-cost license is available for anyone under age 17.)
2. You can attend a TPWD amphibian monitoring workshop, and we will issue you a scientific permit.

You do *not* have to have a permit or license to conduct call count surveys or to observe amphibians as an Amphibian Spotter.



Adopt-a-Frog Pond

What to do in the field...

First, make sure you don't wear insect repellents containing DEET to your site, and wash your hands to remove any repellents, sunscreens, cosmetics, etc. Place ½ inch of water from your collection site in each bucket. You should also place 1-2 sticks or some floating plants in there so that the frogs and metamorphs have somewhere to rest. Make sure your bucket lids have air holes. Place your buckets in the shade to keep your captives cool.

Collect as many individuals from one site as possible. Several buckets are needed, because large frogs may eat small frogs. You will need a separate bucket for Pickerel Frogs (if you live an area where they are found). Pickerel frogs carry a substance toxic to other frogs in their skin (These frogs are NOT toxic to humans and will cause you no harm). Try to find young frogs and metamorphs (or metamorphosing tadpoles) especially,

since deformed frogs may not live very long. Generally the smaller the frog, the younger it is (although the Bullfrog can be quite large when young, since it grows much larger than most frogs).

The best way to catch frogs on land is with the help of a few people, using your net to either trap them or herd them into an area that is not covered with thick brush and plants. You can either pick them up by hand or use your net. Turn the net so the seams are on the outside: The small toes of frogs could get tangled in the seam. Use a net to capture metamorphs from the water. Needless to say, small frogs and metamorphs are very fragile, so handle them gently and be careful not to catch them under the metal frame of your net.

Once you have finished collecting, you will examine each frog individually to look for deformities. Look over the

data sheet to learn what kinds of things you are looking for. Remove each frog from the bucket one at a time and hold it gently but firmly behind the front legs. A thumb on one side and index finger on the other will give you the best control and greatest viewing. REMEMBER, WE WANT TO HEAR ABOUT ALL THE FROGS YOU FIND, NOT JUST THOSE WITH ABNORMALITIES.

Once you have examined a frog, you can release it immediately; BUT, if you carry your bucket some distance from the capture site to survey the frogs, be sure to return the frogs to the area where you found them (rather than releasing them in the area you're using to record the data). You might want to have some extra buckets to hold individuals you've already examined. More suggestions on sampling techniques are available at <http://frogweb.nbii.gov/narcam/protocols.html>

How to send your data...

Now that you have completed your survey please send your information to TPWD. If possible, you can also send your information to NARCAM using the Internet (<http://frogweb.nbii.gov/narcam/>).

Another survey?...

- If you would like to survey at this site again, you'll need to wait until next year to avoid collecting the same individuals more than once.
- If you want to survey at a new location, you should make sure that it is at least a mile away ... frogs can actually travel fairly long distances!
- Don't forget you can learn more about this site by conducting nocturnal call counts.

Some special notes...

Please be sure to leave habitat as undisturbed as possible. In addition, if you work in more than one wetland location, be sure to disinfect boots and equipment before changing sites in order to prevent disease spread. For more suggestions on precautions in the field, please see page 29.



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Adopt-a-Frog Pond • Malformation Monitoring Data Sheet

Please feel free to photocopy forms.

Site Data

Site number: _____ to be assigned by TPWD _____ Location of site (Lat-Long or distance & direction from nearest town): _____
County: _____

Observer Data

Total volunteer time (# people X # hours): _____

Name: _____ Daytime phone: _____
Address: _____ Evening phone: _____
City/St/Zip: _____ Fax: _____
E-mail: _____

Amphibian Observation Information

If there is more than one species present, use a different data sheet for each species

Date of Observation: _____
Species name (or description): _____
Total number of normal individuals: _____ Total number of malformed individuals: _____

Record number of individuals in each malformation category

- These categories can be used with adult or metamorphosing (4 legs) frogs and toads.
- Normal frogs and toads have four digits ("fingers") on their front ("fore") limbs, and five on their hind limbs.
- If possible, please photograph any deformed animals you find; use a ruler or coin in the photo to give a size perspective.
- For photographic examples of deformities in frogs and toads, go to the NARCAM site: <http://frogweb.nbii.gov/narcam/>

Record data below or on the drawings on next page.

Malformation	Code	Number	Malformation	Code	Number	Malformation	Code	Number
Missing Eye(s)	ME		Extra Hind Limb(s)	EHL		Missing Fore Digit(s)	MFD	
Displaced Eye(s)	DE		Extra Fore Limb(s)	EFL		Partial Hind Limb(s)	PHL	
Retained Tail	RT		Abnormal Hind Limb(s)	AHL		Partial Fore Limb(s)	PFL	
Split Hind Limb(s)	SHL		Abnormal Fore Limb(s)	AFL		Cranial Shortening	CRS	
Split Fore Limb(s)	SFL		Extra Hind Digit(s)	EHD		Abnormal Mandible (jaw)	ABM	
Missing Hind Limb(s)	MHL		Extra Fore Digit(s)	EFD		Webbing Cutaneous Fusion	WCF	
Missing Fore Limb(s)	MFL		Missing Hind Digit(s)	MHD		Other (describe below)		



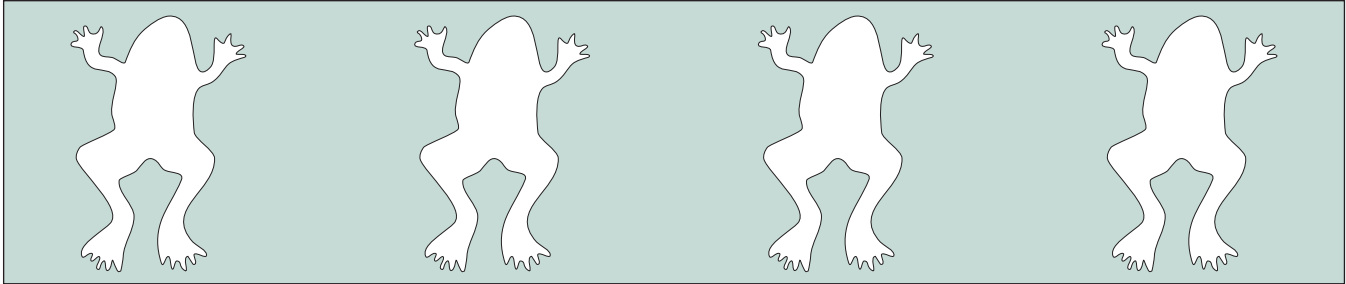


Adopt-a-Frog Pond • Malformation Monitoring Data Sheet

Please feel free to photocopy forms.

Or, if you prefer, circle a limb if it is split, place an X through a missing limb or eye, draw in an extra limb, tail, or skin if present. Place the number of frogs found with an abnormality next to that image. Note any other deformities.

Dorsal view of the top of the frog



Habitat Description

Habitat where you found the amphibian(s):

- Wet meadow
- Swamp
- Pond
- Lake
- Stream
- Marsh
- Land

Other (please describe): _____

If it was on land, how close was the nearest wetland that may be an amphibian breeding habitat?

Remember: Amphibians can breed in a variety of wetland types, including ponds that dry up every year ("vernal pools") and wet meadows. _____

Please answer the following questions about the wetland the amphibians were in, or about the wetland nearest to the on-land locations of the amphibians you found:

What land uses are directly adjacent to the wetland? Check all that apply:

- | | |
|--|--|
| <input type="checkbox"/> Undisturbed natural area
<input type="checkbox"/> Suburban residences
<input type="checkbox"/> Urban residences
<input type="checkbox"/> Rural residences
<input type="checkbox"/> Recreation area (describe)

_____ | <input type="checkbox"/> Cropland (list types)

<input type="checkbox"/> Rangeland (pasture) for cattle
<input type="checkbox"/> Rangeland (pasture) for other livestock (list types)

<input type="checkbox"/> Industry/Manufacturing (describe)

<input type="checkbox"/> Other
_____ |
|--|--|

What is the area like in general? Check all that apply:

- | | |
|---|--|
| <input type="checkbox"/> Wilderness
<input type="checkbox"/> Relatively undisturbed natural area
<input type="checkbox"/> Suburban residential area
<input type="checkbox"/> Urban residential area
<input type="checkbox"/> Other (describe)

_____ | <input type="checkbox"/> Rural residential area
<input type="checkbox"/> Recreational area
<input type="checkbox"/> Farming/ranching community
<input type="checkbox"/> Industrial area |
|---|--|

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4200 Smith School Road, Austin, TX 78744



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Adopt-a-Frog Pond • Malformation Monitoring Data Sheet

Please feel free to photocopy forms.

Site Data

Site number: _____ to be assigned by TPWD _____

Location of site (Lat-Long or distance & direction from nearest town):

County: San Jacinto

Double Lake Recreation Area, Sam Houston Nat'l Forest, 4 mi. S of Coldspring

Observer Data

Total volunteer time (# people X # hours): 8 hrs.

Name: Ima Prince

Daytime phone: 123-456-7890

Address: 201 Hopalong Way

Evening phone: 123-098-7654

Fax: 123-456-7899

City/St/Zip: Coldspring, TX 78542

E-mail: toadlove@aol.com

Amphibian Observation Information

If there is more than one species present, use a different data sheet for each species

Date of Observation: 6/7/2000

Species name (or description): Southern leopard frog

Total number of normal individuals: 6

Total number of malformed individuals: 1

Record number of individuals in each malformation category

- These categories can be used with adult or metamorphosing (4 legs) frogs and toads.
- Normal frogs and toads have four digits ("fingers") on their front ("fore") limbs, and five on their hind limbs.
- If possible, please photograph any deformed animals you find; use a ruler or coin in the photo to give a size perspective.
- For photographic examples of deformities in frogs and toads, go to the NARCAM site: <http://frogweb.nbio.gov/narcam/>

Record data below or on the drawings on next page.

Malformation	Code	Number	Malformation	Code	Number	Malformation	Code	Number
Missing Eye(s)	ME		Extra Hind Limb(s)	EHL		Missing Fore Digit(s)	MFD	
Displaced Eye(s)	DE		Extra Fore Limb(s)	EFL		Partial Hind Limb(s)	PHL	
Retained Tail	RT		Abnormal Hind Limb(s)	AHL		Partial Fore Limb(s)	PFL	
Split Hind Limb(s)	SHL		Abnormal Fore Limb(s)	AFL		Cranial Shortening	CRS	
Split Fore Limb(s)	SFL		Extra Hind Digit(s)	EHD		Abnormal Mandible (jaw)	ABM	
Missing Hind Limb(s)	MHL	<u>1</u>	Extra Fore Digit(s)	EFD		Webbing Cutaneous Fusion	WCF	
Missing Fore Limb(s)	MFL		Missing Hind Digit(s)	MHD		Other (describe below)		

right hind foot was missing



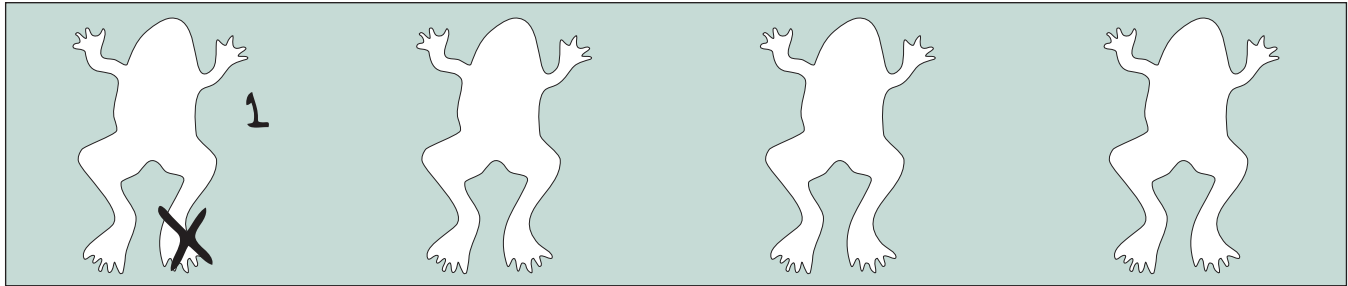


Adopt-a-Frog Pond • Malformation Monitoring Data Sheet

Please feel free to photocopy forms.

Or, if you prefer, circle a limb if it is split, place an X through a missing limb or eye, draw in an extra limb, tail, or skin if present. Place the number of frogs found with an abnormality next to that image. Note any other deformities.

Dorsal view of the top of the frog



Habitat Description

Habitat where you found the amphibian(s):

Wet meadow Swamp Pond Lake Stream Marsh Land

Other (please describe): 25 acre, man-made

If it was on land, how close was the nearest wetland that may be an amphibian breeding habitat?

Remember: Amphibians can breed in a variety of wetland types, including ponds that dry up every year ("vernal pools") and wet meadows. _____

Please answer the following questions about the wetland the amphibians were in, or about the wetland nearest to the on-land locations of the amphibians you found:

What land uses are directly adjacent to the wetland? Check all that apply:

- Undisturbed natural area
- Suburban residences
- Urban residences
- Rural residences
- Recreation area (describe)
national forest picnic ground
- Cropland (list types)

- Rangeland (pasture) for cattle
- Rangeland (pasture) for other livestock (list types)

- Industry/Manufacturing (describe)

- Other

What is the area like in general? Check all that apply:

- Wilderness
- Relatively undisturbed natural area
- Suburban residential area
- Urban residential area
- Other (describe)

- Rural residential area
- Recreational area
- Farming/ranching community
- Industrial area

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4200 Smith School Road, Austin, TX 78744



Ethical Frogging

As you participate in Texas Amphibian Watch, we ask you to keep in mind some of these guidelines designed to protect you, the frogs, and private landowners:

COURTESY RULES

Ask permission!

Legislation in Texas protects the rights of private property owners during the course of your volunteer efforts. You should approach the property owner and explain what you're doing and why, and when you'd like to visit their property. You'll then need to get the landowner to sign a Private Lands Access Request Form to

grant you permission to gather data, send it to Texas Parks and Wildlife Department, and to allow us to use the data in preparing reports. The Private Lands Access Request Form is enclosed. Please return the form to us, even if you are working on your own private property, so that our records show that we have permission to use the data.

Landowner permission forms are not required when you do roadside

call counts surveys, as long as you are on public roads. If you will be working on public property, then you won't have to get a signed permission form, but you should seek verbal permission from the site manager. Once again, explain what you're doing and why, and when you'll be visiting the property. They're likely to be very supportive of your efforts, but they may have to issue you a special permit to enter the area after dark, capture animals, etc.

**Use the Private Lands
Access Request Form
on page 33 if you wish
to gather information
on private property!**

A signed Landowner Access Form will grant you permission to gather data, to provide it to Texas Parks and Wildlife Department, and to allow us to use the data in preparing reports. The form must also be submitted when monitoring your own property.



Ethical Frogging

LICENSING RULES

or sunscreen on your arms or clothing, do not allow frogs or other animals to come in contact with those places.

- ALWAYS put a creature back EXACTLY where you found it!
- If you work in more than one wetland location, be sure to disinfect boots and equipment before changing sites in order to prevent disease spread.

Use the following guidelines when handling frogs for malformation monitoring.

Eggs:

It is best not to touch the eggs at all, but to just observe them where they are.

Tadpoles:

Keep the tadpoles in water. Just like fish, tadpoles have gills, and can only breathe underwater. If you want to observe them closely make sure that you have a small

container of water to keep them in. You can keep them in you hands for a few seconds if you want; just be sure that your hands are damp (or even better, cup your hands so that you have a little pool of water), and make sure you don't squish them!

Metamorphs:

A metamorph is the in-between stage, when a tadpole is changing into a frog. When all four legs of a tadpole start to show, that's when we first call it a metamorph. When it no longer has its tail, then we call it a frog. Keep the metamorphs wet. Make sure there's something in your bucket for metamorphs to crawl up on,





Ethical Frogging

as they are beginning to breathe air and may not be effective swimmers.

Frogs:

Keep frogs moist. Don't overcrowd them in buckets, keeping just one or two in each container. Keep your containers in the shade so that the frogs don't get too hot. When handling frogs, keep your hands moist and hold the frog by its legs—right where the legs meet the frog's body.

RULES TO KEEP YOU SAFE

Make sure you ALWAYS conduct your volunteer work with another partner, especially any night-time activities.

Muck:

Wetlands can sometimes have very deep, soft soils ("muck"), and it's not hard to get "stuck in the muck"! In addition, wading into deep water with soft soils can be dangerous if you are wearing

waders where water might fill your boots. Do not enter water where the bottom is unknown, and be careful of underwater hazards, such as abandoned fishing lines, broken glass, etc.

Poisonous Plants:

Is there poison ivy near your wetland? Make sure you know what kinds of plants in your area are dangerous to touch, and know what they look like.



Poison ivy's leaves are dark green, except in the fall when they turn red, and are usually clustered in groups of three. The edges of its leaves are smooth, without teeth, but the leaves may have a few lobes (like an oak leaf). Look at a field guide at your library or bookstore to double-check your ^{Poison Ivy} identification.

Venomous Snakes:

There are only four types of venomous snakes in Texas—water moccasins or cottonmouths, copperheads, coral snakes, and several types of rattlesnakes. The first three are



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often found in moist habitats, but there is no need for excessive



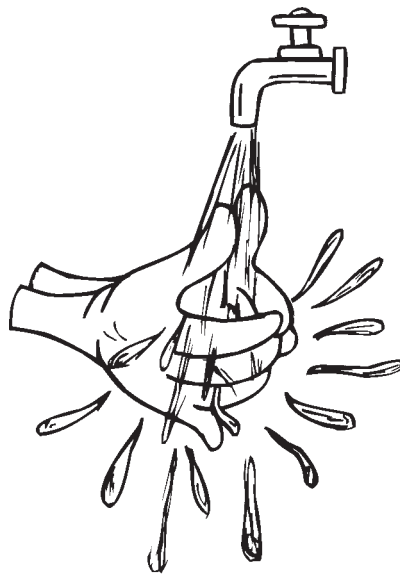
do when you see a snake is to stay very still. If you remain still, the snake may leave. If the snake doesn't move away from you after a few minutes, slowly and quietly back away from it. It's a good idea to check out your field guide to know which kinds of venomous snakes are in your area, and exactly what they look like.

"Poisonous" Amphibians:

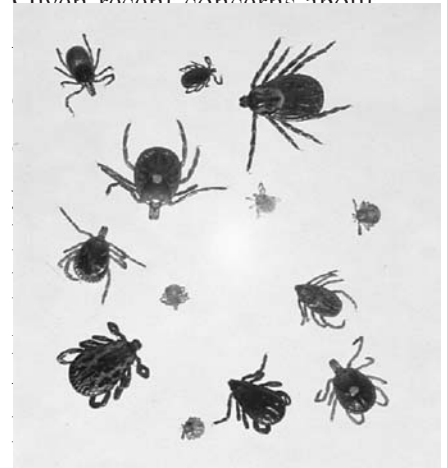
Some frogs, toads, and salamanders have toxins in their skin. Just touching or handling these animals won't hurt you, but be sure to wash your hands thoroughly before you eat or touch your eyes or face.

Ticks:

If there are ticks in your area, you might want to wear long sleeves and pants, and keep your



pants tucked into your socks. Given recent concerns about



Clothing and other stuff

There are some basic items that most field biologists ALWAYS have with them, and you should too!

Long pants and shirts:

Even when it's hot out, it's a good idea to wear long sleeves and pants. This helps protect your skin from sunburn, insect bites, and scratches.

Hat:



Ethical Frogging

A hat with a wide brim all around keeps stuff out of your hair, keeps the sun out of your eyes, and keeps your face and ears from getting sunburned. Also, it's much easier to find tadpoles and frog eggs when the sun isn't glaring in your face!

Drinking water:

If you're not close to home, then make sure you bring a water bottle!

Sunscreen:

Sunburns are not fun, and they can even be dangerous! Make sure you wear sunscreen on any exposed skin, but be sure you wash your hands before handling amphibians.

Insect repellent:

Wetlands are a good place for

frogs, but they're a good place for mosquitoes and other biting insects, too.

IMPORTANT: If you decide to use bug spray, then make sure you do not apply repellents containing DEET to any part of your body that will contact the water or amphibians. No matter what kind of bug spray you use, you should wash your hands thoroughly before you handle frogs or tadpoles.

Happy and Safe Frogging!



Texas Amphibian Watch

Private Lands Access Request Form

To be completed by the owner of any private tract of land where Texas Amphibian Watch data is collected.

_____ (volunteer name) is participating as a volunteer in Texas Amphibian Watch. Texas Amphibian Watch is a monitoring program that uses citizen volunteers to gather data about the status and health of frogs, toads, and salamanders in Texas. Although very few of these species are considered threatened or endangered, they can be valuable indicators of the health of our environment. Texas Parks and Wildlife Department is very pleased to have the assistance of concerned Texans in watching over the health of these native species.

Texas Parks and Wildlife Department will not accept data collected on private land without the written approval of the private landowner. Accordingly, we have prepared this form for your approval. The sections described below are the releases that we and our volunteers are required to obtain from you under Section 12.103 of the Texas Parks and Wildlife Code. If you approve, then please sign one or both sections.

1. Use of information

This documents my approval for TPWD volunteers and employees to use (such as in analyses) site specific information from the property I own or manage. This may include placing that information onto a topographic map and entering the information into a Department database. Thus, the information could be viewed by the public.

(Landowner or authorized agent signature)

(Date)

2. Reporting information

This also documents my approval for TPWD volunteers and employees to report (such as in publications or technical reports) the above approved information in a manner that permits identification of the location of the specific parcel of property that I own or manage.

(Landowner or authorized agent signature)

(Date)

3. Other conditions

If there are any conditions that apply to this approval, please specify and initial below.

Name and Address (of landowner or authorized agent):

Name _____

Address _____

City, State, Zip _____

Phone numbers _____

Optional:

Name of ranch or tract _____

County _____

Acreage _____

Location _____





Data Guide for Amphibian Surveys

Climatic Conditions:

Air temp

The best option is to have an outdoor thermometer. You can also call time/temp phone numbers or obtain temperatures from local radio or TV; however, temperatures in rural settings often differ significantly from temperatures in nearby urban settings.

Wind – Record the actual wind speed or use the Beaufort scale described below. Indicate the direction from which the wind is coming. (for example: B2 SW) *Surveys should not be conducted when wind speeds exceed 12 mph, although exceptions can be made for plains counties.*

B0 (less than 1 mph) – calm/still: smoke will rise vertically.

B1 (1-3 mph) – light air: rising smoke drifts; weather vane is inactive.

B2 (4-7 mph) – light breeze: leaves rustle; can feel wind on your face; weather vane is inactive

B3 (8-12 mph) – gentle breeze: leaves and twigs move around; light weight flags extend.

B4 (13-18 mph) – moderate breeze: moves thin branches, raises dust and paper.

B5 (19-24 mph) – fresh breeze: medium tree branches move.

Sky – Use the following National Weather Bureau guide:

0 – Few clouds

2 – Cloudy or overcast

5 – Drizzle

1 – Partly cloudy or variable sky

4 – Fog or smoke

8 – Showers

Counts may be very effective in light rain, but avoid heavy rain which may impair your ability to hear calls.

Moon – Simply indicate whether moonlight is visible.

Water level – Describe as average, below average, above average, much below average, or much above average.

Barometric Pressure and Relative Humidity – These two variables may be very important in amphibian calling activity. If your site is located near a National Weather Service station, then you can obtain current data from the Internet. Some local radio and television news programs will also provide these numbers, although they can change quickly over the course of an evening. Portable instruments are also available from garden centers and science supply catalogs.

Background Noise – Low: does not impair ability to hear calls; medium: some noise; may obscure some calls; high: definitely affects effectiveness of call count

Amphibian Call Index:

This index is used to give a very rough relative abundance for each amphibian species calling at a site.

Index Value 0: No individuals calling

Index Value 1: Individuals can be counted. There is space between calls.

Index Value 2: Calls of individuals can be distinguished, but there is some overlapping of calls.

Index Value 3: Full chorus. Calls are constant, continuous, and overlapping.



Data Guide for Amphibian Surveys

Texas Wetland Types:

Texas boasts a wide variety of wetland types—both natural and man-made. The list below includes the types most likely to be encountered during amphibian surveys, but may not be exhaustive. Feel free to describe your wetland type if it does not fit the descriptions below. Please indicate whether your wetland is natural or man-made.

- Bog* – Found in East Texas, these are sites found on acid peat soils that are low in nutrients. They have essentially no water flow in or out. Vegetation includes low shrubs, herbs, and a few tree species, with the ground cover dominated by sphagnum moss. Some are very overgrown with vegetation, while others may contain areas of open water.
- Ditch* – Ditches are obviously man-made linear wetland habitat, with a wide array of native and non-native vegetation. Despite their artificial nature, many ditches are used by amphibians as breeding habitat.
- Lake* – Lakes are described as any body of water over 20 acres in size dominated by deep open water. Vegetation and anuran habitat is usually limited to the shallow areas along the shore. With only one natural freshwater lake in Texas, most lakes are actually man-made reservoirs.
- Marsh* – Marshes are any wetland characterized as maintaining water year round and dominated by herbaceous, non-woody vegetation. Water depths can vary but are not usually greater than 3 feet. Common plant species include cattails, rushes, sedges, and grasses, along with submergent plants in the more open water areas. In West Texas spring-fed marshes are known as cienegas.
- Pond* – These are lakes smaller than 20 acres in size. Vegetation can vary, but anuran habitat is usually restricted to shallow areas near the shore. Please indicate whether *natural* or *man-made*.
- Swamp* – Found most frequently in East Texas, these wetlands are dominated by woody vegetation. Standing water is usually present year-round.
- Stream* – Streams include a variety of wetland habitats from small, intermittent drainages to large rivers in Texas. Anurans are most likely to utilize the edges of slow-moving stream bodies, but some salamanders are adapted to using deeper water (for example, amphiuma and sirens in East Texas streams) or faster flow areas (for example, the spring-dwelling Eurycea salamanders found in Central Texas streams). Streams should be characterized on the data form as *intermittent*, *small* (less than 15 feet in width), or *large* (more than 15 feet in width). *Spring-fed* stream habitat should also be noted.
- Temporary Pool* – This category includes “puddles.” A temporary pool is defined as any non-permanent water body that is not part of a larger wetland complex as described above. Temporary pools most often result from spring rains, although they may occur in the summer and fall in West Texas.
- Wet Meadow* – These areas are dominated by grasses, sedges, and rushes and may appear prairie-like for most of the year. In areas with water-logged soils, however, water can stand during the spring and support breeding amphibians.



Amphibian References

Tapes and CDs – Except where noted below, these are often available in nature stores.

Texas Amphibian Watch Guide to the Calls of Frogs and Toads in Texas (CD) – Contains recordings of nearly all frogs and toads in Texas, as well as recordings of other night creatures and a guide to interpreting frog and toad choruses. Available from the TPWD Wildlife Diversity Program (800-792-1112 x7011). Cost: \$5.

Voices of the Night – Contains recordings of 36 frog and toad species found in eastern North America, including the eastern half of Texas, along with information about the species. Distributed by Cornell Laboratory of Ornithology (607-266-7425).

Frog and Toad Calls of the Rocky Mountains and Southwest – Contains species found in the western part of Texas, among others. Distributed by Cornell Laboratory (607- 266-7425).

The Calls of Frogs and Toads - Eastern and Central North America – Contains recordings and written information about 42 species of frogs and toads found east of the Great Plains. Side two contains a guide to variations in calls and interpretation of mixed species choruses. Distributed by One Good Tern (800-432-8376).

A Guide to Night Sounds – Contains recordings of night birds and insects (useful for comparison to anuran calls.) Distributed by One Good Tern (800-432-8376).

Field Guides – These are available in most book stores and nature stores. Most paperback costs range from \$10 to \$20.

A Field Guide to Reptiles and Amphibians of Eastern/Central North America – by Roger Conant and Joseph T. Collins. Color drawings, maps, and text for all Texas species. Part of the Peterson Field Guide series, published in 1991 by Houghton Mifflin Company, Boston.

Reptiles and Amphibians (Golden Series) – by H.S. Zim & H. M. Smith. Color drawings, maps and text for most Texas species. Published by Golden Books.

The Audubon Society Field Guide to North American Reptiles and Amphibians – by J.L. Behler and F. W. King. Photos, maps, and text. Published in 1985 by Alfred A. Knopf.

Amphibians and Reptiles of Texas with Keys, Taxonomic Synopses, Bibliography, and Distribution – by J. Dixon. A more technical book, with distribution maps by county, but fewer illustrations. Published by Texas A&M Press.

List of Frogs and Toads Found in Texas

The following species have all been recorded in Texas, along with subspecies of some of the species listed below. The first column lists the scientific name; some alternative names are given in parentheses. The second column lists the common name. The third column gives an indication of the species' rarity on a global scale, while the fourth column indicates its rarity within the state (G5 and S5 species are the most common, while G1 and S1 species are the most rare). The fifth column indicates whether the species is listed by the U.S. Fish and Wildlife Service as threatened (LT) or endangered (LE), while the sixth column indicates whether the species is listed by Texas Parks and Wildlife Department.

We are especially interested in whether you encounter any S1 or S2 species during the course of your frog-watching activities. It would be helpful if you could photograph or record any of these rare species. Please note that permits are required to collect species listed as threatened or endangered by the state or federal government.

SCIENTIFIC NAME	COMMON NAME	GRANK	SRANK	USES A	SPROT
ANAXYRUS (BUFO) AMERICANUS	AMERICAN TOAD	G5	S3		
ANAXYRUS (BUFO) COGNATUS	GREAT PLAINS TOAD	G5	S5		
ANAXYRUS (BUFO) DEBILIS	GREEN TOAD	G5	S4		
ANAXYRUS (BUFO) HOUSTONENSIS	HOUSTON TOAD	G1	S1	LE	E
ANAXYRUS (BUFO) PUNCTATUS	RED-SPOTTED TOAD	G5	S5		
ANAXYRUS (BUFO) SPECIOSUS	TEXAS TOAD	G5	G5		
ANAXYRUS (BUFO) WOODHOUSII	WOODHOUSE'S TOAD	G5	S5		
ANAXYRUS (BUFO) WOODHOUSII VELATUS	EAST TEXAS TOAD	G5	S4		
CHAUNUS (BUFO) MARINUS	GIANT TOAD (MARINE TOAD)	G5	S2		
CRANOPSIS NEBULIFER (BUFO VALLICEPS)	GULF COAST TOAD	G5	S5		
ACRIS CREPITANS	CRICKET FROG	G5	S5		
HYLA ARENICOLOR	CANYON TREEFROG	G5	S4		
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG	G5	S5		
HYLA CINEREA	GREEN TREEFROG	G5	S5		
HYLA SQUIRELLA	SQUIRREL TREEFROG	G5	S5		
HYLA VERSICOLOR	NORTHERN GRAY TREEFROG	G5	S5		
PSEUDACRIS CLARKII	SPOTTED CHORUS FROG	G5	S5		
PSEUDACRIS STRECKERI	STRECKER'S CHORUS FROG	G5	S5		
PSEUDACRIS TRISERIATA	STRIPED CHORUS FROG	G5	S5		
PSEUDACRIS CRUCIFER	SPRING PEEPER	G5	S5		
SMILISCA BAUDINII	MEXICAN TREEFROG	G5	S3		T
LEPTODACTYLUS LABIALIS	WHITE-LIPPED FROG	G5	S1		T
SYRRHOPHUS CYSTIGNATHOIDES	RIO GRANDE CHIRPING FROG	G5	S3		
SYRRHOPHUS GUTTILATUS	SPOTTED CHIRPING FROG	G4	S3		
SYRRHOPHUS MARNOCKII	CLIFF CHIRPING FROG	G5	S5		
CRAUGASTER (ELEUTHERODACTYLUS) (HYLACTOPHRYNE) AUGUSTI	BARKING FROG	G4	S4		
GASTROPHRYNE CAROLINENSIS	EASTERN NARROWMOUTH TOAD	G5	S5		
GASTROPHRYNE OLIVACEA	GREAT PLAINS NARROWMOUTH TOAD	G5	S5		
HYPOPACHUS VARIOLOSUS	SHEEP FROG	G5	S2		T
SCAPHIOPUS COUCHII	COUCH'S SPADEFOOT	G5	S5		
SCAPHIOPUS HURTERII (HOLBROOKII)	EASTERN SPADEFOOT	G5	S5		
SPEA BOMBIFRONS	PLAINS SPADEFOOT	G5	S5		
SPEA MULTIPLICATA	NEW MEXICO SPADEFOOT	G5	S5		
LITHOBATES (RANA) AREOLATUS	CRAWFISH FROG	G4	S3		
LITHOBATES (RANA) BERLANDIERI	RIO GRANDE LEOPARD FROG	G5	S5		
LITHOBATES (RANA) BLAIRI	PLAINS LEOPARD FROG	G5	S5		
LITHOBATES (RANA) CATESBEIANUS	BULLFROG	G5	S5		
LITHOBATES (RANA) CLAMITANS	BRONZE (GREEN) FROG	G5	S5		
LITHOBATES (RANA) GRYLIO	PIG FROG	G5	S2		
LITHOBATES (RANA) PALUSTRIS	PICKEREL FROG	G5	S5		
LITHOBATES (RANA) PIPIENS	NORTHERN LEOPARD FROG	G5	S1 (extirpated)		
LITHOBATES (RANA) SPHENOCEPHALUS	SOUTHERN LEOPARD FROG	G5	S5		
RHINOPHRYNUS DORSALIS	MEXICAN BURROWING TOAD	G5	S2		T



Some Useful Information

There are several excellent Web sites that provide information about amphibians and amphibian monitoring programs.

www.tpwd.state.tx.us/amphibians/

This site provides electronic copies of all the Texas Amphibian Watch materials.

www.nwf.org/frogwatchUSA/

FrogWatch, an adopt-a-frog pond program sponsored by the National Wildlife Federation and the USGS, can provide more information about nocturnal monitoring, as well as on-line reporting of data.

www.zo.utexas.edu/research/txherps

This site, provided by the University of Texas, provides descriptions of all the amphibians and reptiles in the state, photos of most species, and recordings of calls for most of the frogs and toads.

www.pwrc.usgs.gov/naamp/

This site, provided by the Biological Resource Division of the U.S. Geological Survey, provides information on the North American Amphibian Monitoring Program, including background on amphibian declines, monitoring guidelines, a frog call quiz, and different state programs.

www.frogweb.gov

This site, provided by a variety of partners under the leadership of the U.S. Geological Survey, is an education-oriented site designed to gather information about the occurrence of malformations in amphibians.

NOTICE:

TPWD receives federal assistance from the U.S. Fish and Wildlife Service and other federal agencies. TPWD is therefore subject to Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, in addition to state anti-discrimination laws. TPWD will comply with state and federal laws prohibiting discrimination based on race, color, national origin, age, sex or disability. If you believe that you have been discriminated against in any TPWD program, activity or event, you may contact the U.S. Fish and Wildlife Service, Division of Federal Assistance, 4401 N. Fairfax Drive, Mail Stop: MBSP-4020, Arlington, VA 22203, Attention: Civil Rights Coordinator for Public Access.

Also of Interest

Amphibian Monitoring Workshops

One of the best ways to get started is to attend an amphibian monitoring workshop. Texas Amphibian Watch will offer several workshops each year. We highly recommend that you attend a workshop before joining the program. Participants in NAAMP are required to attend a workshop. Workshops will present information about the biology and characteristics of amphibians in your area and detailed instructions for conducting amphibian monitoring.

Classroom guides

Texas Amphibian Watch has several curriculum guides about amphibians for use in Texas classrooms. The curriculum guide offers classroom activities that allow teachers to expand upon the field activities described above.

Other monitoring programs

Finally, don't forget that the Texas Amphibian Watch activities can mesh well with some other monitoring programs, such as Adopt-a-Wetland and Texas Watch water quality monitoring. Texas Parks and Wildlife Department also has other citizen monitoring programs in which you may be interested.

Amphibian



Texas Parks and Wildlife Dept.
4200 Smith School Road
Austin, Texas 78744