NATURAL AREAS PROGRAM

Frog Survey
2009 Annual Report

OCTOBER 2009

INSIDE THIS REPORT:

In 2009 volunteers surveyed City of Fort Collins natural areas for amphibians for the second year in a row using protocols adapted from nationwide amphibian calling surveys.

THANK YOU VOLUNTEERS FOR ALL YOUR EFFORTS!

This report details the results of the survey. Chorus frogs, Woodhouse's toads, Bullfrogs, and Plains spadefoots were all recorded by volunteers and their locations are shown on the maps inside, starting on page 4.

The table on pages 8 and 9 shows the species found at each natural area.

EISEN & KERN TAMKUN SURVEYING AT NORTH SHIELDS POND

WHY SURVEY FOR FROGS?

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.

City of Fort Collins Natural Areas Program

naturally yours

METHODS

Surveys were conducted by a combination of volunteers and NAP staff. Volunteers attended a training session in April 2009 to learn amphibian identification and were supplied with CDs of amphibian calls.

Survey sites: Surveyors signed up for natural areas to survey through our volunteer website and established their own survey locations within each site using the general guideline of one-half mile between survey locations.

Survey periods: Because not all amphibian species and individuals breed at the same time of year, surveys were conducted over three time periods (and a fourth optional one), with the goal of a sample occurring at each site at least once during each period.

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: Surveys began at least 30 minutes after sunset and were generally completed by 11:00 p.m. Surveys were conducted when air temperatures were at least 42° F, wind speed was less than 19mph, and precipitation consisted of no more than light rain or drizzle.

Survey procedure: . When surveyors arrived at a survey location, they remained as quiet as possible to minimize disturbance to calling amphibians. Surveyors remained at each survey location for five minutes listening for amphibian calls. Calls were recorded by species using the following index:

0-No individuals heard.

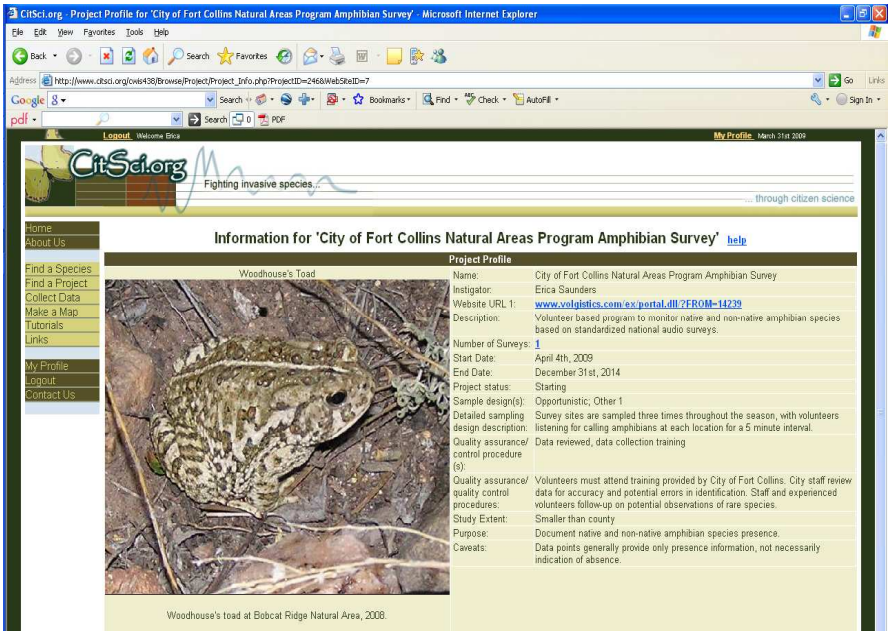
1- Individuals can be counted. There may be space between calls.

2- Calls of individuals can be distinguished, but there is some overlapping.

3- Full chorus of calls. Constant, continuous, and overlapping.

Surveyors were asked to contact NAP staff if they believed they heard the calling of an uncommon species; staff then conducted follow-up surveys to try to verify identification of these species.

Data processing: Survey locations and species observed with the calling index were recorded on a Citizen Science website (www.citsci.org). Locations were stored in a geographic information system (GIS) database.



OUR PROJECT WAS HOUSED ON A CITIZEN SCIENCE WEBSITE HOSTED BY THE NATURAL RESOURCES ECOLOGY LAB AT COLORADO STATE UNIVERSITY

WHAT DID WE FIND???

A total of 111 surveys were completed across 32 natural areas. The maps and tables on the following pages show where species were observed and what amphibians were found at each natural area.

Note that Bobcat Ridge and Soapstone Prairie were not surveyed by volunteers this year—staff and/or researchers at Colorado State University surveyed these areas and the table on pages 8—9 shows what they found.

Western chorus frogs (*Pseudacris triseriata*) and Woodhouse's toads (*Bufo woodhousii*) were the most common species recorded, and are generally considered to be the most common and widespread species within Larimer County. Chorus frogs were recorded at 24 natural areas. Woodhouse's toads were recorded at 16 natural areas.

The bullfrog (*Rana catesbeiana*), an invasive species which often eats native amphibians, was recorded at 10 locations. Unfortunately, this is many more sites than they were documented at last year! Knowing the locations where bullfrogs occur is an important first step so that the Natural Areas Program can take measures to reduce their occurrence.

The plains spadefoot (*Spea bombifrons*) was recorded at 2 natural areas. Plains spadefoots spend most of their life buried beneath the soil and emerge after heavy spring or summer rains to breed, often in temporary pools. Therefore, the window of opportunity for hearing the breeding call of this species is somewhat limited, so it is great that this species was observed at all!

NORTHERN LEOPARD FROG (ARAN MEYER) – NONE OF THESE WERE OBSERVED DURING OUR SURVEY.

Unfortunately, we did not observe any northern leopard frogs (*Rana pipiens*). The northern leopard frog is a state species of concern. The good news is that researchers found a healthy population of northern leopard frogs on the Meadow Springs Ranch in northern Larimer County (just south of Soapstone Prairie) so at least they are surviving in our region.

WHAT'S SO BAD ABOUT BULLFROGS?

Bullfrogs aren't native to Colorado—they originally were only found east of the Mississippi River. Bullfrogs were introduced to most western states because humans wanted to catch them for their tasty frog legs.

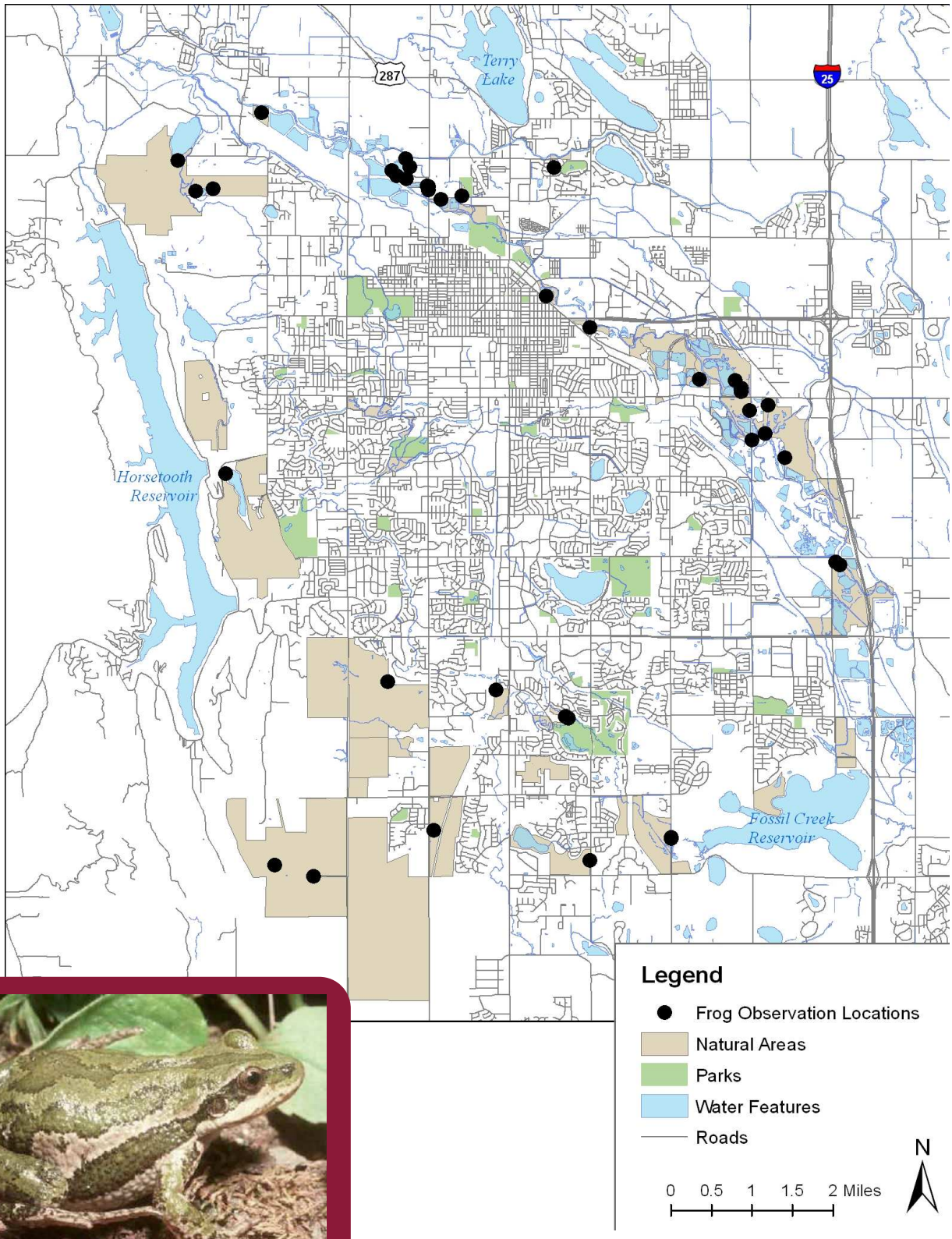
Unfortunately, bullfrogs eat anything that will fit into their mouths...baby ducks, small mammals, and Colorado's native amphibians! Northern leopard frogs are a perfect fit into the big mouths of bullfrogs. Lots of native amphibians are in decline and bullfrogs contribute to their problems.

What can you do?

- Let us know about bullfrogs you see or hear on natural areas.
- Catch 'em! You can catch bullfrogs if you have a fishing license. They are tasty!

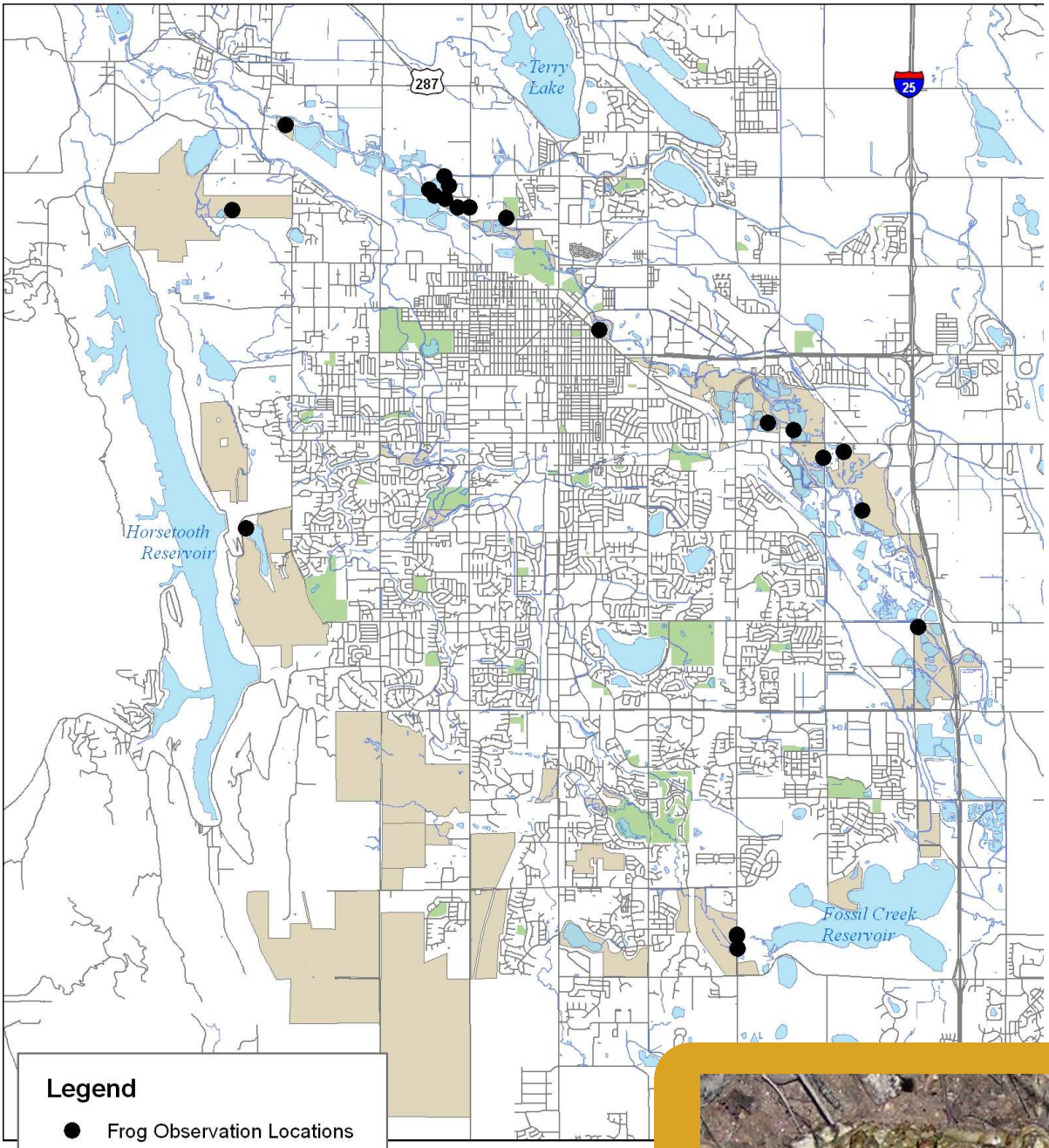
BULLFROG (COLORADO DIVISION OF WILDLIFE)

2009 CHORUS FROG OBSERVATIONS



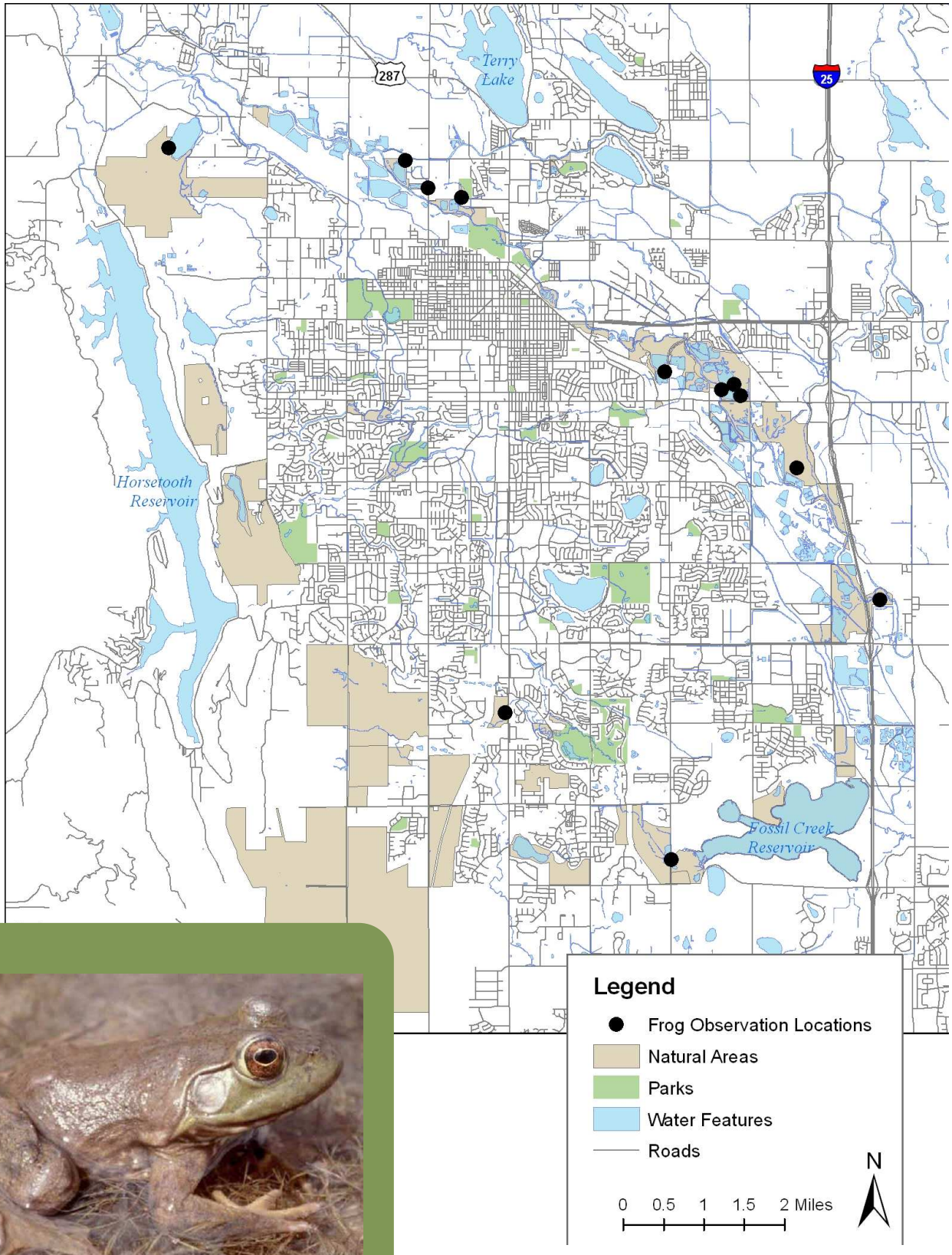
CHORUS FROG (COLORADO DIVISION OF WILDLIFE)

2009 WOODHOUSE'S TOAD OBSERVATIONS



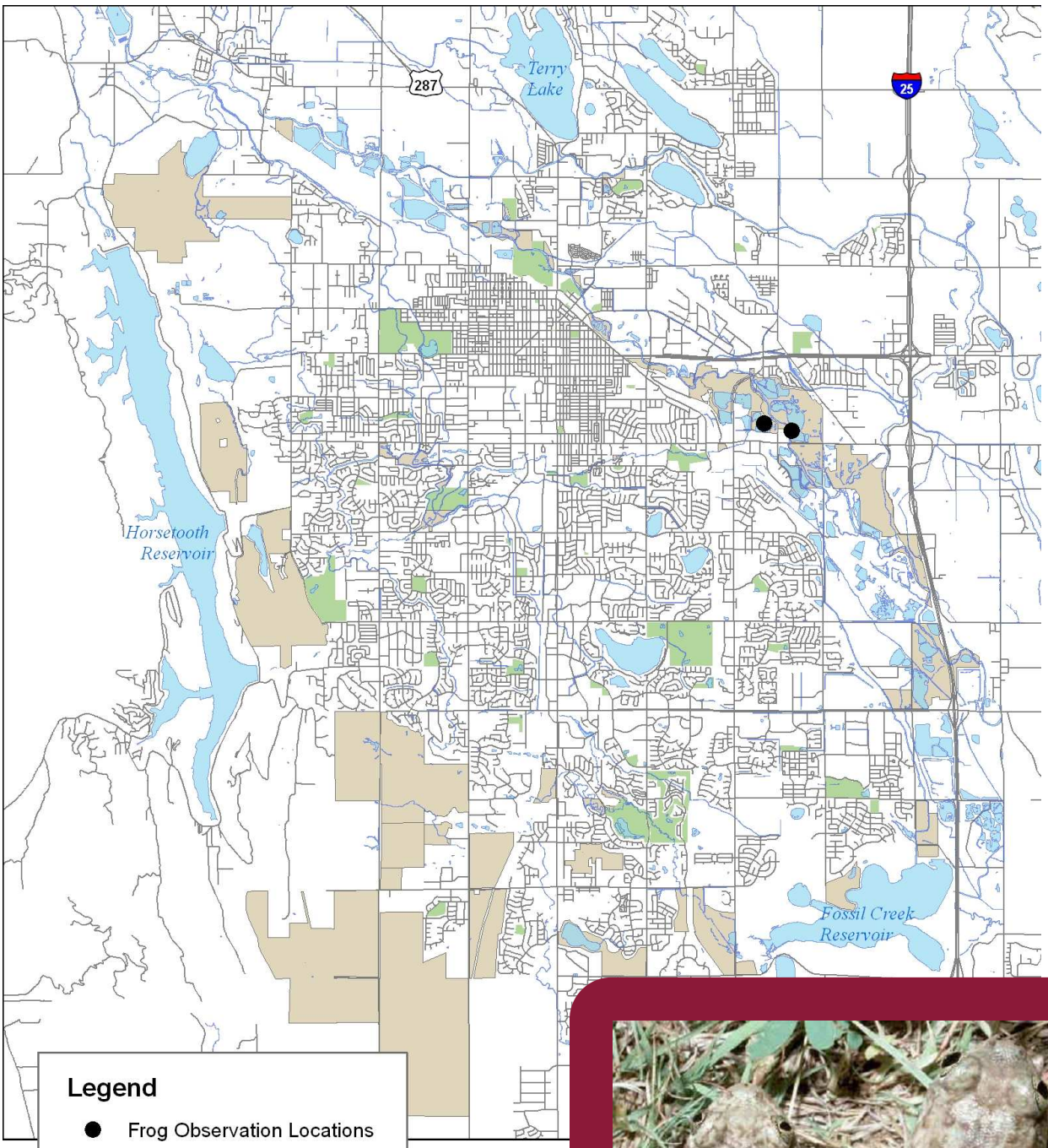
WOODHOUSE'S TOAD (ERICA SAUNDERS)

2009 BULLFROG OBSERVATIONS



BULLFROG (COLORADO DIVISION OF WILDLIFE)

2009 PLAINS SPADEFOOT OBSERVATIONS



PLAINS SPADEFOOT (COLORADO DIVISION OF WILDLIFE)

AMPHIBIANS OBSERVED

NATURAL AREA	Chorus frog	Woodhouse's toad	Bullfrog	Plains spadefoot
LOCAL NATURAL AREAS				
Arapaho Bend	X	X	X	
Butterfly Woods	X	X		
Cathy Fromme	X			
Cattail Chorus	X	X		X
Colina Mariposa	X			
Cottonwood Hollow	X	X		
Coyote Ridge	X			
Eagle View				
Fischer	Not surveyed***			
Fossil Creek Wetlands	X	X	X	
Gustav Swanson				
Hazaleus	Not surveyed***			
Kingfisher Point			X	
Magpie Meander	X	X	X	
Mallard's Nest				
Maxwell	Not surveyed***			
McMurry	X			
Nix	Not surveyed***			
North Shields Pond	X	X	X	
Pelican Marsh	X			
Pineridge	X	X		
Prairie Dog Meadows	Not surveyed***			
Prospect Ponds				
Red Fox Meadows				
Redtail Grove	X		X	
Redwing Marsh	X			
Reservoir Ridge	X	X	X	
River's Edge				
Riverbend Ponds	X	X	X	X

NATURAL AREA	Chorus frog	Woodhouse's toad	Bullfrog	Plains spadefoot
LOCAL NATURAL AREAS				
Ross				
Running Deer	X	X	X	
Salyer	**Not surveyed*** **			
Springer	X			
Sterling	X	X	X	
The Coterie				
Two Creeks	X			
Udall	X	X		
Williams	**Not surveyed*** **			
REGIONAL NATURAL AREAS				
Bobcat Ridge	X	X		
Gateway		X		
Soapstone Prairie	X	X		

***Note: There are a few reasons why natural areas were not surveyed – for example, if a small natural area was adjacent to another natural area and was easily surveyed from the adjacent natural area, or if no volunteers signed up to survey a location.

Eisen and Kern Tamkun at North Shields Pond

Bullfrogs at Magpie Meander (photo by Master Naturalist Wendy Studinski)

THANK YOU!!!

THIS SURVEY WOULD NOT HAVE BEEN POSSIBLE WITHOUT THE DEDICATION OF MANY VOLUNTEERS—THANK YOU FOR PARTICIPATING IN THE 2009 SURVEY!!

Adrian Aycock
Katherine Batha
Don Beard
Mary Beck
Erin Bergquist
Sarah Bexell
Robin Bialy
Robert Blinderman
Anne Bossert
Rebecca Boyle
Shane Boyle
Irene Briggs
Randy Briggs
Ron Briggs
Rita Brown
Cecelia Coleman
Theresa Conrath
David Craig
John Crockett
Dolores Daniels
Mike Daugherty
Joyce Dickens
Chris Dietrich
Ann Donoghue
Boyce Drummond
Rene Evenson
Jim Gano
Alice Gibson
Samantha Granum
Gayle Hemenway & scouts
Jim Henriksen
Betty Herrmann
Valerie Howard
Nicole Jernigan-Bandini
Tricia Kearns
Jeffrey Kehoe
Patrick Kehoe
Nick Keller
Kathleen Kilkelly
Barb Kinneer
Colton Klemperer
Deborah-Eve Lombard
Ryan McShane
Allen Miller
Sam Miller
Judy Pasek
Betsy Perna
Dave Pettus
Chris Pranskatis
Gary Raham
Colter Ritsch
Lynn Rubright
Sue & Eric Schafer
Joan Schubart
Star Seastone
Sara Shaner
Bryer Shepherd
Mary Shull-Sarti
Juliano Silveira
Gail Silver
Debra Silverman
Lynn Stutheit
Kimberly, Eisen & Kern Tamkun
Andrew Warnock
Zoe & Paul Whyman
Mark Wismar
Lochen Wood

A HUGE THANKS ALSO TO:

- Tina Jackson, Colorado State Herpetologist & Eric Defonso for helping with the volunteer training in April
- Greg Newman, Colorado State University, for answering tons of questions about the citsci.org website
- Sue Schafer for doing an awesome job of volunteer coordination

HOW CAN WE IMPROVE THE SURVEY?

Volunteers, let us know what you thought about this year's survey! How can we improve for next year? If you have ideas, send them to:

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