



## ***Iowa's Frog and Toad Call Survey*** 2010



### ***2010 Survey Results***

2010 was the 20<sup>th</sup> year for Iowa's frog and toad call survey. A total of 78 routes were surveyed. 49 of those routes were traditional routes, while 29 were new NAAMP routes. The traditional routes contained a total of 263 sites, which were visited a total of 729 times.

The average weather conditions were well within the parameters of the survey. No major weather irregularities were reported and all parameters were basically the same as 2009, although the 2010 survey had less cloud cover. The average water temperature was well above the minimum required temperature. Surveys were generally run on calm (low wind) partly cloudy nights. The percentage of surveys done within 24 hours of a rain event was roughly the same as 2009 at 43% (46% in 2009) (Table 3a).

Eastern gray tree frogs were the most reported species in 2010, being present at 87.4% of sites, being especially dominant during the 2<sup>nd</sup> and 3<sup>rd</sup> runs. This is a large increase from 2009, when they were seen at 52.2% of sites. Chorus frogs and American toads tied as the second-most reported species with reports at 78.3% of sites. Plains spadefoot, Spring peeper, and Cricket frogs were heard in highest abundance (2.67, 2.14, and 2.06 respectively). This is a change from the past three years, when Chorus frogs were most reported and most abundant. Even though the Chorus frog dropped in ranking of most reported, it actually increased in percent of sites on which it was detected (from 72.2% in 2009 to 78.3% in 2010). It should be noted that while Plains spadefoots were ranked as the most abundant (2.67 call index), they were only present at three sites (0.01% of possible sites). Even though they were found in full chorus or multiple frogs at each site, the low amount of sites at which this species was found should indicate that it still isn't a commonly found frog in Iowa. Spring peepers saw a large decline of reports in 2010 (falling from 47.0% of sites in 2009 to 24.3% of sites in 2010). Wood Frog has never been confirmed in the state, and the crawfish frog has not been observed since the 1940's. The Fowler's toad has a restricted range in the state, which may cause it to not appear in the surveyed areas.

### ***NAAMP Survey Data***

29 Iowan routes were monitored as part of the national North American Amphibian monitoring program. 290 sites were on these 29 routes, and a total of 870 visits were made to these sites by volunteer. Weather variables like cloud cover and air temperature were similar to the numbers collected during the traditional survey and were within the guidelines.

14 of Iowa's 18 frog and toad species were heard by volunteers. There are a few differences between the way NAAMP and the traditional survey track each species. The NAAMP survey combines Fowler's and Woodhouse's toad into one category, because these two species are hard to distinguish. There is a category added for unknown tree frogs, as Cope's and Eastern Grey Tree Frogs are difficult to tell apart.

The three most commonly reported species are the same in the NAAMP and traditional surveys: Chorus Frog, American Toad, and Eastern Grey Tree Frog. Plain's spadefoot toads, Chorus frogs, Great Plains toad, and the Woodhouse/Fowlers complex had the three highest

abundance indexes. However, the abundance for Plain's Spadefoot and Great Plains toads may be skewed because of low sampling numbers. While some of these species are different from those most reported or abundant in the traditional survey, the most common species aren't unexpected and keep in-line with traditional surveys previous years' data.

NAAMP surveys depart from our traditional surveys in a few ways. The difference between NAAMP sites and the sites on our traditional routes is that NAAMP sites are chosen at random, making it less likely that site selection is biased by a historic presence of frogs and toads. The NAAMP survey does not include water temperature as a parameter. Precipitation is tracked by averaging the number of days between a survey run and the last rainfall. This is a change from the traditional survey, which counted the number of surveys occurring 24 hours or less after rain.

***In the Coming Year***

NAAMP gives Iowa's volunteers the opportunity to be part of a nation-wide survey, a part of the solution to a nation-wide crisis for frogs and toads. We were very happy with the amount of volunteers who picked up NAAMP routes during 2010 and hope to see that number continue to grow.

**Table 1 Traditional Survey: 2010 route and site data**

Num. of Active Routes	63
Num. of Routes Run in 2010	49
Num. of Active Sites	489
Num. of Sites Run in 2010	263
Total Num. of Visits Made in 2010	729
Total Num. of Counties Surveyed	30
Num. of Empty Sites	89

**Table 1a. NAAMP Survey: 2010 route and site data**

Num. of Routes Run in 2010	29
Num. of Sites Run in 2010	290
Total Num. of Visits Made in 2010	840
Num. of Empty Sites	2

**Table 2 Traditional Survey: 2010 weather and timing for each survey run**

<b>Weather and Timing</b>	<b>Runs</b>		
	1	2	3
<i>Average Date</i>	4/2/2010	5/27/2010	6/28/2010
<i>Water Temp (F)</i>	57	67	72
<i>Average Beginning Air Temp (F)</i>	60	69	72
<i>Average Beginning Wind*</i>	1.8	1.1	1.0
<i>Average Beginning Cloud Cover **</i>	0.89	0.71	0.66
<i>Num. Surveys within 24 hours of Rain</i>	16	15	22

**Table 2a. NAAMP Survey: 2010 weather and timing for each survey run**

**Runs**

<b>Weather and Timing</b>	1	2	3
<i>Average Date</i>	4/20/2010	5/30/2010	7/3/2010
<i>Average Beginning Air Temp (F)</i>	55.7	66.7	72
<i>Average Beginning Wind*</i>	1.6	1.1	0.8
<i>Average Beginning Cloud Cover **</i>	0.79	0.96	0.83
<i>Num. Surveys within 24 hours of Rain</i>	8	13	14
<i>Average Num. of Days Since</i>	3.3	1.3	1.5

**Table 3**  
**Traditional**  
**Survey: 2010 Frog**  
**and Toad Survey**  
**species data**

**Number of records per run**

(count of the num. of surveys during which species was detected)

<i>Species</i>	<i>Sites on which species detected</i>	<i>% of Total Possible Sites</i>	1	2	3	<i>Total Num. Visits</i>	<i>Average call index 1=Single to 3=Full Chorus?</i>
Eastern Gray Treefrog	230	87.4%	32	127	129	288	1.97
Chorus Frog	206	78.3%	148	44	36	228	2.00
American Toad	206	78.3%	78	101	52	231	1.91
Cricket Frog	177	67.3%	13	196	104	213	2.06
Bull Frog	102	38.7%	2	38	84	124	1.25
Cope's Gray Treefrog	96	36.5%	8	57	56	121	1.67
Green Frog	75	38.3%	2	38	52	92	1.48
Spring Peeper	64	30.8%	49	19	0	68	2.14
Northern Leopard Frog	60	22.8%	49	14	6	70	1.40
Leopard Frog	17	6.5%	8	8	1	17	1.12
Woodhouse's Toad	8	19.5%	1	6	1	8	1.66
Great Plains Toad	3	0.01%	1	0	3	4	2.00
Plains Spadefoot	3	30.0%	0	0	3	3	2.67
Plains Leopard**	1	0.01%	0	0	1	1	1.00
Pickeral Frog	0	0.0%	0	0	0	0	NA
So. Leopard Frog**	0	0.0%	0	0	0	0	NA
Wood Frog	0	0.0%	0	0	0	0	NA
Crawfish Frog	0	0.0%	0	0	0	0	NA
Fowler's Toad	0	0.0%	0	0	0	0	NA

**Table 3a. NAAMP Survey: 2010 Frog and Toad Survey species data**

**Number of records per run**

(count of the num. of surveys during which species was detected)

<i>Species</i>	<i>Sites on which species detected</i>	1	2	3	<i>Total Num Visits</i>	<i>Average call index 1=Single to 3=Full Chorus</i>
Chorus Frog	180	161	38	13	212	2.01
American Toad	162	90	92	42	224	1.71
Eastern Gray Tree frog	125	23	93	90	206	1.78
Cricket Frog	121	5	85	81	171	1.84
Cope's Gray Tree frog	59	4	43	35	82	1.68

Bull Frog	40	0	23	33	56	1.14
Northern Leopard Frog	33	26	4	5	35	1.46
Spring Peeper	29	26	4	5	35	1.83
Green Frog	21	0	8	18	26	1.42
Plains Leopard	18	6	12	3	21	1.67
Unknown Tree frog	16	4	10	12	26	1.54
Woodhouse/Fowlers	5	3	3	1	7	2.00
Great Plains Toad	2	0	1	1	2	2.00
Plains Spadefoot	1	0	1	0	1	3.00
Pickeral Frog	0	0	0	0	0	NA
So. Leopard Frog	0	0	0	0	0	NA
Wood Frog	0	0	0	0	0	NA
Crawfish Frog	0	0	0	0	0	NA