

## 2010 Overview

2010 marked the first full year that the Association of Zoos and Aquariums (AZA) managed the FrogWatch USA citizen science program. Data were collected following the same standardized protocols that have been in place since 1998, and data sheets were either e-mailed or sent by US Mail to AZA for data entry.

2010 also marked the establishment of many FrogWatch USA Chapters. From January through December 2010, the FrogWatch Chapter Network grew to 20 chapters in 16 states. This network continues to expand, and if your organization is interested in hosting a FrogWatch Chapter, visit <http://www.aza.org/host-a-frogwatch-chapter/>.

New FrogWatch USA Chapter Coordinator training curricula were developed and regional Chapter Coordinator training sessions were held in:

- Virginia Beach, Virginia — 01 March 2010
- Houston, Texas — 13 September 2010
- Asheville, North Carolina — 03 November 2010
- Jacksonville, Florida — 05 November 2010

FrogWatch USA resources and materials are available on the AZA website:

- Chapter Manual: [http://www.aza.org/uploadedFiles/Conservation/Commitments\\_and\\_Impacts/Amphibian\\_Conservation/FrogWatch/2010\\_FrogWatch\\_USA\\_Chapter\\_Manual.doc](http://www.aza.org/uploadedFiles/Conservation/Commitments_and_Impacts/Amphibian_Conservation/FrogWatch/2010_FrogWatch_USA_Chapter_Manual.doc)
- Monitoring protocols and downloadable Site Registration Forms and Observation Data Sheets: <http://www.aza.org/current-frogwatch-volunteers/>
- List of frog and toad species for each state: <http://www.aza.org/states-and-territories/>

Several other online learning opportunities are available thanks to the United States Geological Survey (USGS) and e-Nature:

- Volunteers can practice and test identification skills using the USGS Frog Call Lookup and Public Frog Call Quiz: <http://pwrc.usgs.gov/frogquiz>
- An online field guide and frog calls are available courtesy of e-Nature: [http://www.enature.com/fieldguides/view\\_default.asp?curGroupID=7&shapelD=1056](http://www.enature.com/fieldguides/view_default.asp?curGroupID=7&shapelD=1056)
- Range maps for United States amphibian species are available through the USGS National Amphibian Atlas: <http://www.pwrc.usgs.gov:8080/mapserver/naa/>

## FUTURE PROSPECTS

2010 also marked a very exciting partnership and development for FrogWatch USA. AZA and National Geographic Society have partnered under a National Science Foundation grant to develop, implement, and evaluate a web-based software platform called FieldScope ([www.fieldscope.org](http://www.fieldscope.org)).

FrogWatch USA is one of two national “testbed” partners in the effort. A pilot launch is anticipated by breeding season 2012, with a full launch the following year. Volunteers will be able to enter, view, manipulate, and analyze their data in real time and explore relationships between species presence and relative abundance in conjunction with geographic and abiotic factors.

To read the full press release, please visit:  
<http://www.aza.org/PressRoom/detail.aspx?id=16170>.

## Monitoring Sites & Visits

### FrogWatch USA monitoring sites registered from 1998–2010

- Total: 7,872
- Total w/ spatial information: 5,906
- Total w/at least one visit: 3,574

### 1998 – 2010 SNAPSHOT

- The majority of visits are made to sites in the northeastern United States, east of the Mississippi River and north of North Carolina.
- The ten states with the most monitoring all have over 1,000 site visits from the onset of FrogWatch USA through 2010.
- Volunteers in Maryland, Ohio, and New York have made the most monitoring visits.

### Number of visits at one site (1998–2010 )

- The number of times an individual site has been visited ranged from zero to a **high of 591**.
  - This New Jersey site, Chatsworth Bogs, has been monitored since March 2004.
  - Only one other site has been monitored more than 500 times. Northfield Pond is in California and has been monitored since January 2003.
  - Both of these sites continued to be monitored through 2010!
- **168 sites** have been visited over 50 times.
  - 81 of those sites have been monitored over 100 times!

Number of visits	Number of Sites
50+	168
100+	81
200+	19
300+	3
400+	2

### 2010 monitoring sites

- Number monitored: 215
- New monitoring sites: 41

Top ranking states for monitoring visits in 2010.		
State	Number of Sites Monitored	Number of Visits
Ohio	53	719
Rhode Island	45	472
Maryland	28	312
Indiana	14	285
New York	12	242
Other States (20)	63	526
<b>Total</b>	<b>215</b>	<b>2556</b>

## Volunteer Participation

### FrogWatch USA registered volunteers (1998 –2010)

- Total: 10,506
- With state affiliation: 10,446
- There are volunteers from all 50 states, as well as the District of Columbia, Puerto Rico, and the US Virgin Islands.
- Roughly a quarter of registered volunteers submitted data between 1998 and 2010.

State	Number of Registrants	Number who submitted data	Percent Submitted data
New York	662	168	25%
Maryland	608	259	43%
Florida	593	155	26%
Pennsylvania	573	151	26%
California	570	128	22%
Texas	504	84	17%
Indiana	491	157	32%
Michigan	457	96	21%
Ohio	440	136	31%
Virginia	428	116	27%

### 2010 active volunteers

- More than 128 volunteers participated in 2010.
  - There are several organizations with multiple observers that submit data using one name. For example, one environmental education center in New York submits data collected by nearly a dozen volunteers under one coordinator's name.
- Rhode Island, Maryland, and Ohio had the greatest number of participating individual volunteers.
- The majority of active volunteers (91%) made two or more visits, and over 50% made 10 or more monitoring visits.

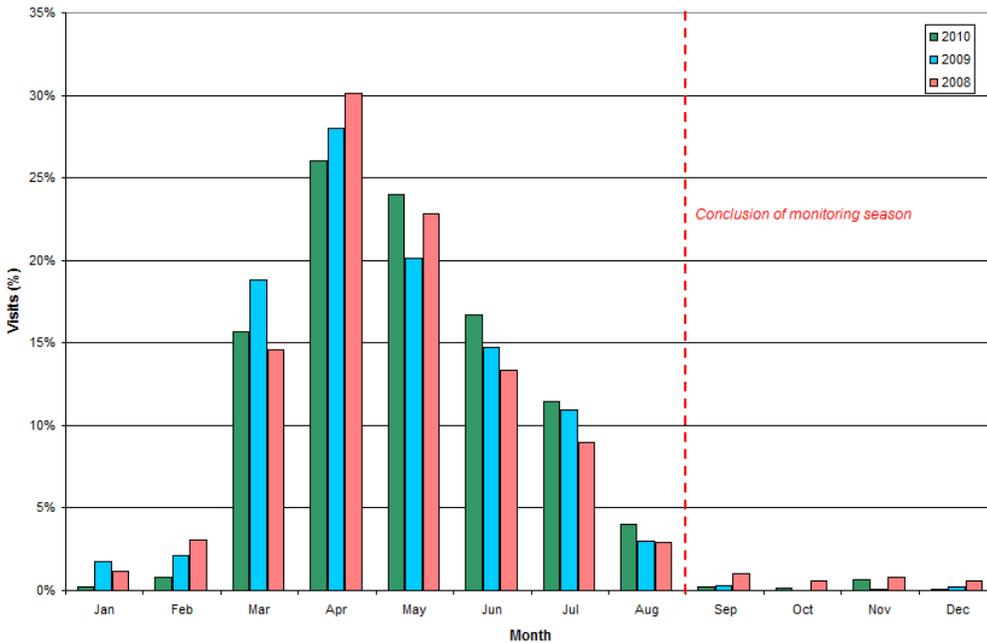
### 2010 STANDOUTS

- **Chatsworth Bogs, New Jersey** was visited 46 times; the most visits any one site received in 2010.
- **One volunteer, Marlo, and her field assistants in Ohio** made 495 monitoring visits to 38 sites in 2010! They have been submitting data since 2001.
- **One individual, Karen in Indiana**, made 248 visits over the 2010 breeding season. Karen has been volunteering with FrogWatch USA since April 2003 and monitors six sites!

**Great job and thank you for your dedication and contributions!**

## Peak Monitoring Activity

Peak monitoring activity from 2008 to 2010



- In 2010, there was a surge in monitoring visits in March, and site visits peaked in April, which is consistent with 2008 & 2009 activity levels.
- The monitoring season should conclude at the end of August.
  - While there still may be calling frogs in some regions, volunteers will only be hearing a subset of species that would have been observed earlier in the season as well.
  - FrogWatch USA benefits by having the maximum number of volunteers all monitoring at the same time of year, capturing locally, early-, mid-, and late-breeding species.

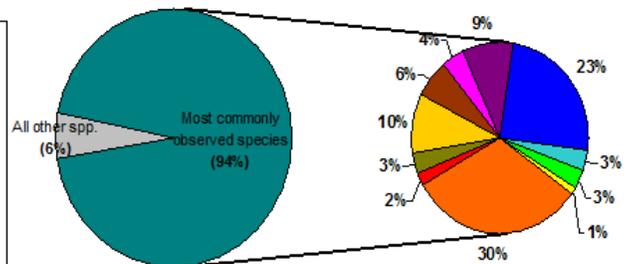
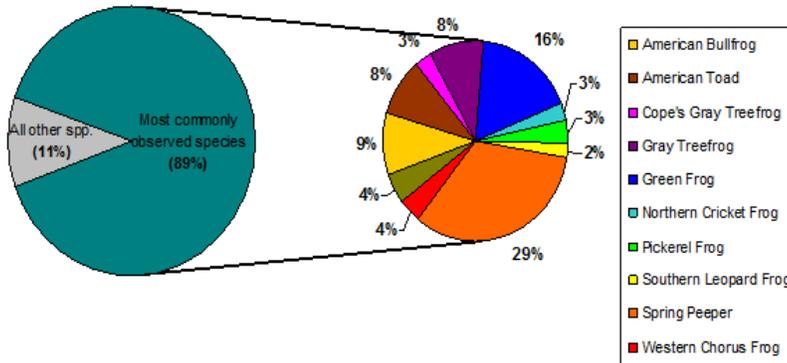
## Species

- There are a greater number of species observations east of the Mississippi River (i.e., eastern states) than in the western states, largely due to the concentration of monitoring activity in the northeastern United States.
- 2010 monitoring results in the eastern states closely resemble overall monitoring results.
  - Approximately 90% of observations are made up of the 12 most commonly encountered species.

Frog and toad species observations for all FrogWatch USA seasons (1998-2010)

Species east of the Mississippi River

Frog and toad species observations for 2010 FrogWatch USA Season



- **Spring peeper** has been observed the most in the eastern states, followed by **green frog**.

Species	Number of 2010 observations in Western States
Pacific Treefrog	90
Southern Leopard Frog	11
Green Frog	4
Spring Peeper	4
California treefrog	2
Cope's Gray Treefrog	2

- **Pacific treefrog** was the standout species in states west of the Mississippi River. It is the only western species that has been observed over 100 times from 1998 to 2010.
- **Spring peeper** was observed four times in 2010 at sites in Missouri and Texas. The limits of this species range is just west of the Mississippi River. These observations were made at sites in Missouri and Texas.
- Similarly, southern leopard frog and green frog are considered primarily "eastern species", but were detected in states in the western portions of the species' ranges.

## Notable Species

- The **northern cricket frog** is a species in need of conservation in the northern parts of its range. FrogWatch USA volunteers have done a standout job detecting this species - observations comprise 3% of all eastern species records.
- The **crawfish frog** has been listed as “near threatened” by the International Union for the Conservation of Nature. This species was observed 23 times by FrogWatch USA volunteers in 2010, providing valuable distribution and breeding information.
- The **cane toad** is an introduced species to the United States from Central and South America. It is considered an invasive species due to its explosive reproductive rate, voracious appetite, and skin toxins that are fatal to native predators - and family pets. FrogWatch USA volunteers have continued to record calling observations of this species in Florida. Data are being generated to track its presence over time and influence on other frog and toad species.



Northern Cricket Frog  
© Patrick Coin



Crawfish Frog  
© Stanley Trauth



Cane Toad  
© Michael Linnebach

## What Does It All Mean And What is Next?

- **Register sites and provide GPS coordinates**
  - Geographic data are just as important as frog and toad calling and weather data. Records cannot be used if there is no spatial element to make them relevant.
  - The National Geographic FieldScope tool will map monitoring sites. Data that are not linked to monitoring sites will not be displayed.
  - Tips:
    - Many cellular phones have GPS applications available for download.
    - Locate your site or verify your GPS accuracy using an online program such as [www.terraserver.com](http://www.terraserver.com) or Google Earth.
- **Monitor registered sites**
  - There were a substantial number (> 2,000) of sites registered that had not been visited for monitoring. Species presence or absence at these registered sites are needed to increase the coverage of FrogWatch USA.
  - Tips:
    - Select a wetland that is easy and convenient to access after sunset that can be visited multiple times throughout the breeding season.
    - Join a chapter and team up with other volunteers to work together to make sure the wetland site is being monitored.
- **Follow protocol**
  - Standardized protocols are critical for trend analysis, accuracy of data, and continuity of the monitoring program.
  - Data collected before sunset or under inappropriate weather conditions (e.g., Beaufort Wind Code greater than 4) cannot be used.
  - Observations under or exceeding the three minute requirement cannot be used.
  - Tips:
    - If you want to spend more than the required two-minute acclimation and three-minute monitoring periods at your wetland site, either visit it more frequently or monitor additional wetlands.
    - Record comments on your data sheet about species seen but not heard for inclusion in the database.
- **Become familiar with local species**
  - FrogWatch USA volunteers did an excellent job of detecting widespread and abundant species, but information is also needed on species that are rare and difficult-to-detect.
  - Tips:
    - Practice and test frog and toad identification skills.
    - Seek information on species status and tips for identification from chapter coordinators and local experts.
- **Spread the word**
  - FrogWatch USA benefits from increased volunteer and chapter participation.
  - People interested in conservation of amphibians and their habitats are needed to help this imperiled group of animals.