

DOEE FrogWatch 2017 Season Summary

Introduction

2017 was the second year of the Department of Energy & Environment (DOEE) FrogWatch citizen science program. DOEE is a local chapter host for the national FrogWatch USA™ program, and fish & wildlife biologists at the Aquatic Resources Education Center (AREC) in Anacostia Park train volunteers to recognize frogs and toads by call and to help collect and submit data from wetland and stream locations in and around the District of Columbia.

This report highlights some of the results from monitoring conducted March through August 2017. Note that citizen science data and results may be subject to change and should be treated as provisional.

What's Inside?

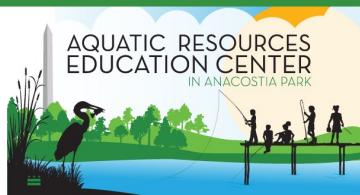
- DOEE FrogWatch at a Glance (pg 2)
- 2017 DOEE FrogWatch monitoring results at specific study areas and locations,:
 - Broad Branch stream restoration (pg 3)
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Thank You Volunteers!

Thank you to the returning citizen scientists from the 2016 season, new recruits who attended an in-person training session, and to everyone who collected and submitted data or otherwise supported the program. DOEE FrogWatch is not possible without you!

Keep in Touch

Have questions about this summary report? Need help preparing for the 2018 season? Want to share an interesting observation? Email doee.arec@dc.gov to reach one of the DOEE FrogWatch Coordinators, or email Rachel Gauza Gronert, DOEE Fish & Wildlife Biologist, directly at rachel.gauza@dc.gov.

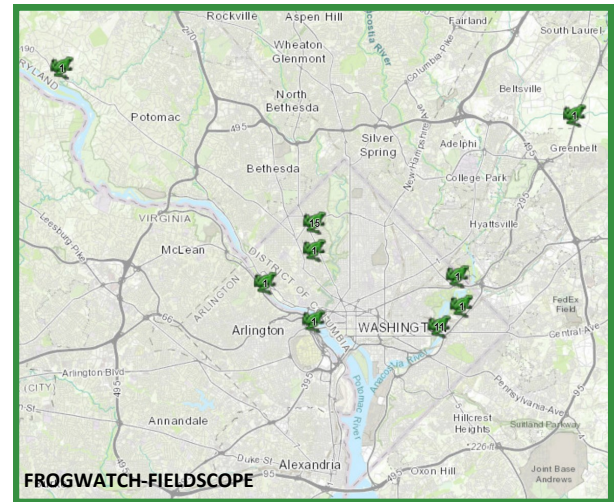


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DOEE FrogWatch at a Glance

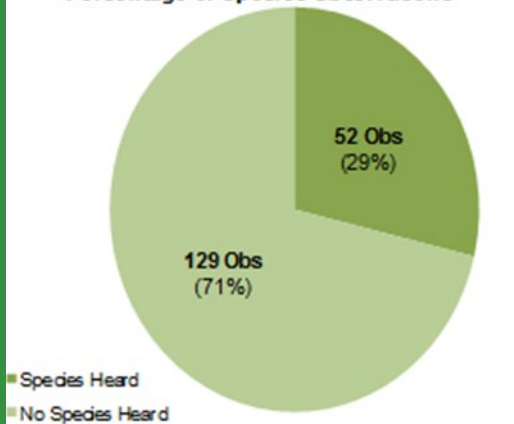
In **2017**, there were:

- **Two** in-person trainings for new volunteers held in March at the Aquatic Resources Education Center in Anacostia Park and Temple Sinai DC.
- **32** participating volunteers; 16 returning and 16 new.
- **33** monitored sites in the District (31) and Maryland.
- **168** unique monitoring visits and 181 observations logged from March through August.
- **Nine** species heard.
- **206** observations contributed by DOEE FrogWatch volunteers to the FrogWatch USA national database since the 2016 chapter launch.



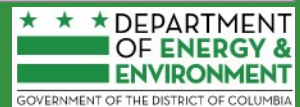
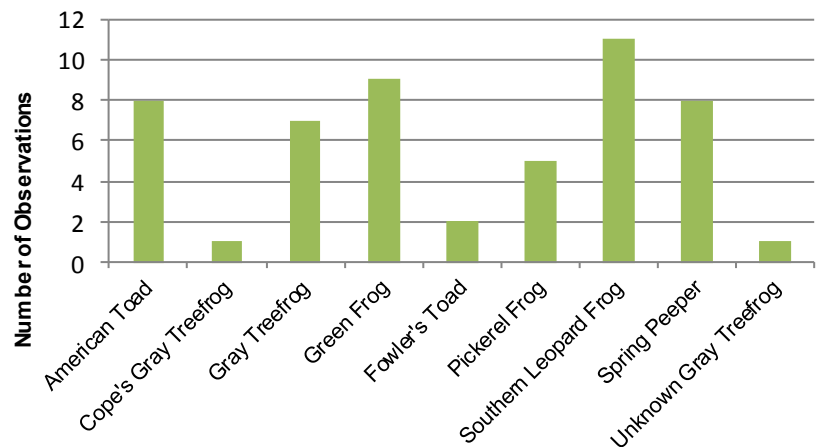
Locations of 33 DOEE FrogWatch chapter sites monitored from March through August 2017. Frog icons on the map may represent groupings of sites clustered in certain areas.

Percentage of Species Observations



Southern Leopard Frog, Green Frog, American Toad, and Spring Peeper were the most commonly documented by DOEE FrogWatch volunteers in 2017.

DOEE FrogWatch 2017 Species Observed



Additional data notes:

- A total of 41 new sites were registered, bringing the total number of chapter sites to 55 in two years. 22% of these were not monitored in 2017 but are considered active and available for future monitoring seasons.
- A total of 13 observations were not entered to the database. This occurred when there was insufficient site location information (three sites, 12 observation visits) or if the standardized monitoring protocol was not followed (one site, one observation visit).

Aquatic habitat types monitored were vernal (seasonal) pools, swamps, marshes, ponds, streams, and regenerative stormwater conveyances (RSCs). RSCs are part of a stream restoration technique that creates a designed series of step pools that mimic the natural processes (hydrology) of a small stream and associated wetlands. **Read more 2017 monitoring results on pages 3 - 8.**

Broad Branch Stream Restoration Monitoring

Background

Broad Branch in Northwest DC (Ward 3) is a tributary to Rock Creek that runs roughly parallel to Broad Branch Road NW from 36th Street NW to Beach Drive NW in Rock Creek Park. Restoration of a 1,600 foot portion of Broad Branch starting at 36th Street NW was completed in October 2014 and features a series of cascading step pools known as a Regenerative Stormwater Conveyance (RSC).

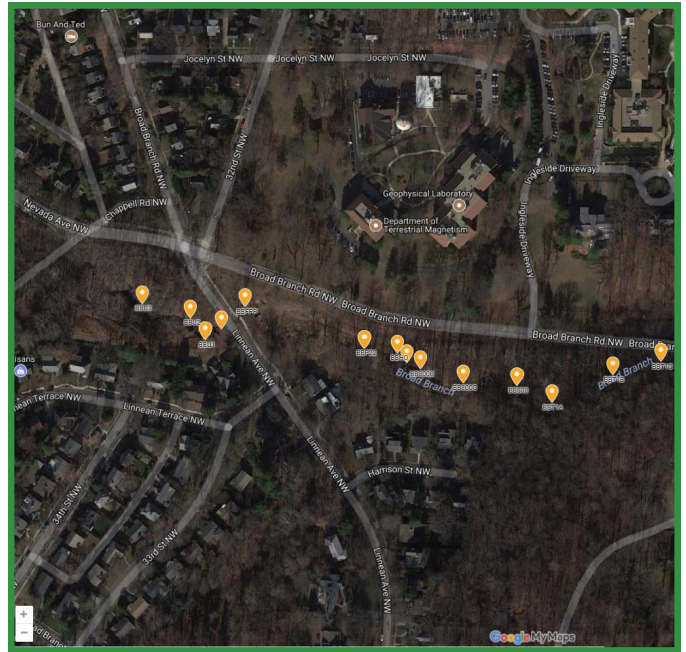
One site, BBRSC1, in the upstream portion located to the west of Linnean Avenue NW was monitored by DOEE FrogWatch volunteers in 2016. Monitoring of the stream reach was expanded in 2017 to include 14 locations at individual step pools — four to the west of Linnean Avenue Northwest and ten downstream to Broad Branch Road NW. Sites were established by a DOEE Fish & Wildlife Biologist and monitoring was conducted by DOEE FrogWatch volunteers in accordance with National Park Service (NPS) Scientific Research and Collecting Permit #ROCR-2017-SCI-0004, Study# ROCR-00135.

2017 Results & Future Monitoring

- Four sites (BBRSC1, BBHO, BBP22, BB800B) were monitored by four volunteers from March through August. Three of those sites (BBHO, BBP22, BB800B) were only monitored in July and August.
- Three species were documented during ten visits total; “no species heard” was reported during eight (80%) of monitoring visits.
- The most upstream site that was monitored, BBRSC1, had the highest diversity of species; **American Toad**, **Spring Peeper**, and **Southern Leopard Frog** were documented calling during one visit in March 2017.
- BBHO, located near the midpoint of the study area, was the only other site where a species, **Southern Leopard Frog**, was heard. A single individual was also photographed by a volunteer while collecting calling data.
- Calls were not heard at BBP22 or BB800B during the three monitoring visits in July and August.

American Bullfrog, Green Frog, Pickerel Frog, and Unknown Gray Treefrog were also heard at BBRSC1 in 2016. Six monitoring visits were made from April through June 2016 at the site as opposed to one visit in 2017. However, Spring Peeper at calling level 2 (calls overlapping) was officially documented this year.

DOEE plans to renew the study permit with National Park Service and resume monitoring in 2018. Additional volunteers will be directed to cover groupings of sites to promote better coverage next season. Volunteers monitoring in this location will be strongly encouraged to commit to monthly observations.



Locations of 14 designated DOEE FrogWatch monitoring sites along the Broad Branch Tributary to Rock Creek.



Southern Leopard Frog was one of three species heard calling in the Broad Branch study area. This individual was photographed on July 7, 2017 near site BBP22.

Linnean Park Monitoring

Background

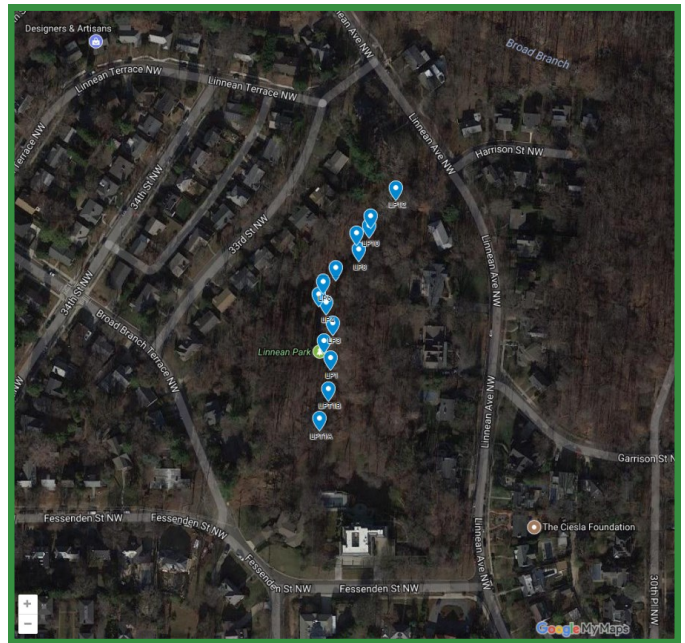
Linnean Park in Northwest DC (Ward 3) includes a small tributary to Broad Branch, which ultimately flows into Rock Creek. The perennial stream runs from Fessenden Street NW to Linnean Avenue NW and Harrison Street NW. Restoration work on 900 linear feet of stream using the Regenerative Stormwater Conveyance (RSC) approach was completed in September 2014. 2017 was the first year of DOEE FrogWatch monitoring at this location. Fourteen (14) monitoring sites were established by a DOEE Fish & Wildlife Biologist at individual RSCs/step pools and monitored by volunteers.

2017 Results & Future Monitoring

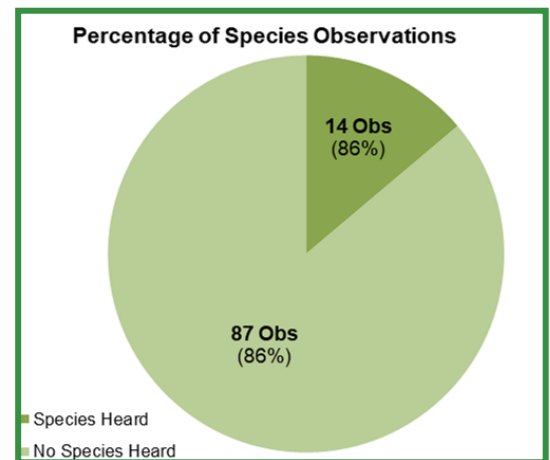
- Eleven (11) sites were monitored by two volunteers from March through August.
- Three of the 14 designated sites (LP3, LP7, LP8) could not be located by volunteers in the field and were not monitored.
- Calls were not heard at five sites (LP4, LP5, LP6, LP10, LP11) despite nine monitoring observation visits from March through August.
- Five species were documented during 14 observations:
 - **American Toad** – 5 observations at 4 sites (Mar, Apr);
 - **Southern Leopard Frog** – 4 observations at 2 sites (Apr, Jun, Aug);
 - **Pickerel Frog** – 3 observations at 3 sites (Apr, Jun);
 - **Spring Peeper** – 1 observation at 1 site (Apr); and
 - **Unknown Gray Treefrog** – 1 observation at 1 sites (Jul).
- Spring Peeper was also noted in the vicinity, with individuals possibly calling from another nearby water source such as Broad Branch.

Both volunteers noted changes in water levels, including flooding conditions and increase in debris presence outside of the stream banks/pool boundaries, at different times during the monitoring season. These anecdotal observations suggest that the stream is responsive to storm events and stormwater surges, and that storm flows may influence frog and toad calling observations at a given time. Additional monitoring and comparisons with patterns in weather data may aid in revealing trends across the study area and at individual step pools.

Continuing data collection at Linnean Park in 2018 and beyond will document species presence, show how the site is used by calling frogs and toads over time, and may suggest how variability among individual step pools and other abiotic factors may influence amphibian presence. Volunteers will be strongly encouraged to maintain a minimum of monthly monitoring visits for consistency and to aid in annual comparisons over time.



Locations of 14 designated DOEE FrogWatch monitoring sites along the Linnean Park stream.



99 monitoring visits and 101 observations were made; the majority (86%) of observations were “no species heard”.

Kingman & Heritage Islands Park

Background

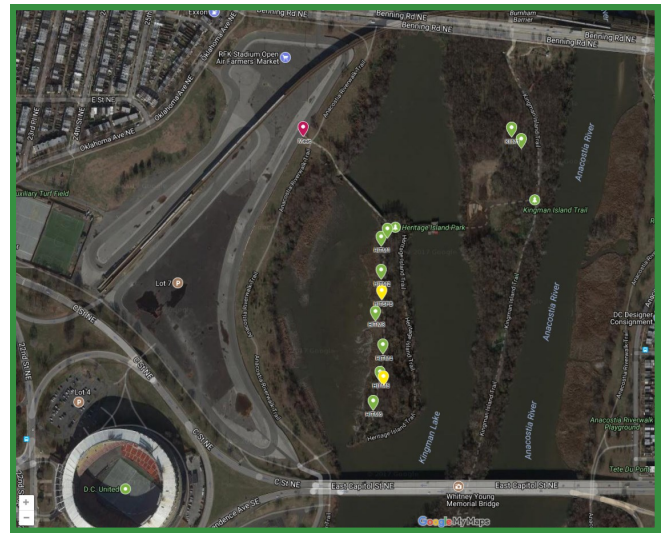
Kingman and Heritage Islands are man-made areas in the Anacostia River owned by the District of Columbia Government and managed by Living Classrooms of the National Capital Region. The two organizations collaborated to establish long-term DOEE FrogWatch monitoring locations for monthly data collection.

Three sites were established along the Heritage Island Trail to monitor marsh habitat in Kingman Lake in 2016 (HITM1, HITM3, HITM5). An additional three were established along the trail in 2017 (HITM2, HITM4, HITM6), as were more seasonal pool locations (HITSPA, HITSPB, HITSPC) on the opposite side of the trail. Two monitoring locations were established on Kingman Island at two seasonal wetlands in 2017, known as Kingman Island Inland Marsh 1 (KIIM1) and Kingman Island Seasonal Pool A (KISPA).

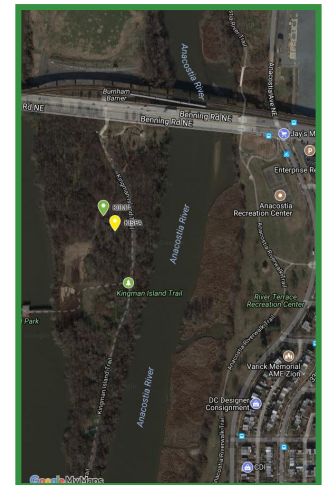
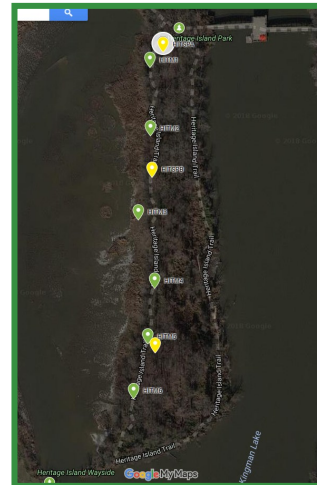
2017 Results & Future Monitoring

Overall

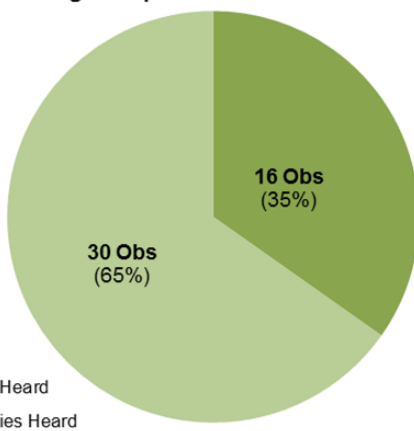
- Five group monitoring visits were conducted (03/28, 04/18, 05/09, 06/13, and 07/11).
- There were 4-9 volunteers a visit; sites were monitored by a team of 2-3 volunteers each visit.
- Some sites dry periodically and could not be monitored (i.e., no observation was counted).



Locations of 10 designated DOEE FrogWatch monitoring sites: 8 at locations on Heritage Island and 2 on Kingman Island. Sites by island are below; green denotes marsh, yellow is seasonal pool habitat.

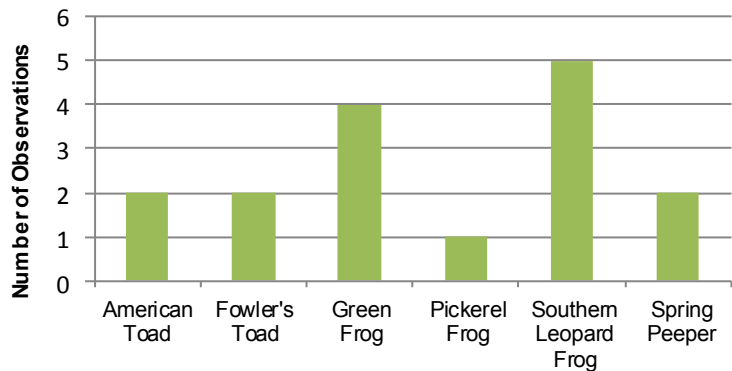


Percentage of Species Observations



Six species were heard during 16 observations; all other observations (65%) were of “no species heard.” Southern Leopard Frog was the most frequently heard species and was observed at sites on both Kingman and Heritage Island in marsh as well as seasonal pool habitats.

2017 Species Observations at Kingman & Heritage Islands



A breakdown of results by park area are presented on **page 6**.

Kingman & Heritage Islands Park (Continued)

2017 Results & Future Monitoring (Continued)

Kingman Island Seasonal Wetlands

- Both sites were monitored four times from March through June and were found to be dry for the remainder of the season.
 - KIIIM1, designated as inland marsh habitat, was noted to have low water levels in June and was completely dry in July.
 - KISPA, the seasonal pool habitat, was dry in June.
- KIIIM1 had the highest diversity of all sites on Kingman and Heritage Islands with observations of:
 - **Southern Leopard Frog** – 2 observations (Mar);
 - **American Toad** – 1 observation (Mar, Apr);
 - **Spring Peeper** – 1 observation (Mar); and
 - **Pickereel Frog** – 1 observation (Apr).
- KISPA, a seasonal pool in close proximity to KIIIM1, had a subset of species with observations of:
 - **Southern Leopard Frog** – 1 observation (Mar);
 - **American Toad** – 1 observation (Mar); and
 - **Spring Peeper** – 1 observation (Mar).

Both monitored habitats had the most calling activity in March. **Spring Peeper** and **Southern Leopard Frog** were reported at full chorus levels with extensive overlap among calling individuals. It is essential that these habitats are monitored early in the season (March and April), else species presence and breeding activity will be missed. More than one visit per month early in the season would be beneficial.

Heritage Island Seasonal Pool & Marsh Habitats

The water levels at the three seasonal pool sites (HISPA, HISPb, HISPC) were extremely variable. While initially believed to be filled seasonally, it appeared that their water levels were also tidally influenced. Very little species activity was noted even when the pools were filled.

- HISPA held standing water during the March, April, and May visits. A single **Southern Leopard Frog** was heard calling during the March visit.
- HISPb and HISPC only held standing water during the May visit. This was also during high tide conditions (high tide at 8:52 PM). A single **Southern Leopard Frog** was heard on that visit.

Green Frog was heard at three of the marsh sites (HITM2, HITM4, HITM5) during the July visit. It was also heard at HITM5 during the June visit. **Fowler's Toad** was heard at HITM2 and HITM3 during the June visit and No Species were heard at HITM1 or HITM6 for any of the five visits in 2017.

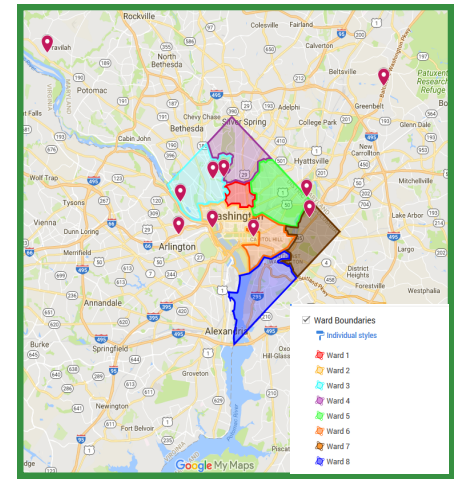
The six marsh sites were also tidally influenced, but initial analysis did not reveal a correlation between tide condition and species presence during the five 2017 visits. It was noted that mud flats with shallow and patchy puddle-like habitat were observed at low tide during the June visit and were utilized by two individual Fowler's Toads calling back and forth in those conditions.

Tidal conditions, as well as precipitation, should continue to be considered and tracked as part of the monitoring.

Other Monitoring in and around the District of Columbia

Background

One of the major goals of DOEE FrogWatch is to learn more about frog and toad species and their supporting aquatic habitats in the District. It is invaluable when volunteers are able to locate and monitor their own sites: DOEE does not know where every aquatic habitat is located nor are staff able to visit places multiple times or at regular intervals. This is where citizen science can really shine! Likewise, DOEE welcomes volunteers from outside the District and in neighboring watersheds to contribute to our knowledge of frog and toad populations through the national FrogWatch USA program.



Eleven (11) aquatic habitat sites have been located, registered, and monitored by DOEE FrogWatch volunteers since 2016. Seven are located within the District, two are in Virginia (near Cherrydale in Arlington County), and two are in Maryland (one in Prince George's County and one in Montgomery County).

2017 Results & Future Monitoring

- Five sites in four wards were monitored in the District by seven volunteers:

- Ward 2 – Teddy Roosevelt Island swamp habitat.
- Ward 3 – Seasonal Pool near Fletchers Cove; Stream habitat in Melvin C Hazen Park.
- Ward 5 – Pond habitat in Fort Lincoln.
- Ward 7 – Watts Branch stream habitat.

- Eleven (11) monitoring visits and 14 observations were made from April through August.

- Five species were heard.

- Green Frog**, the most common, was heard:

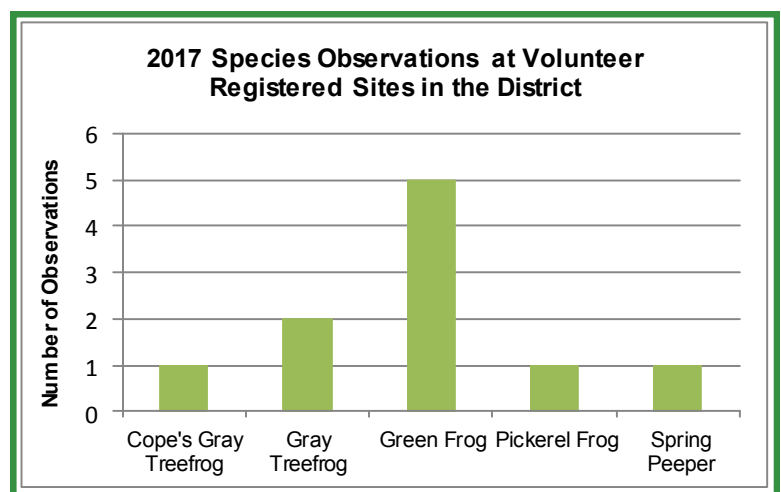
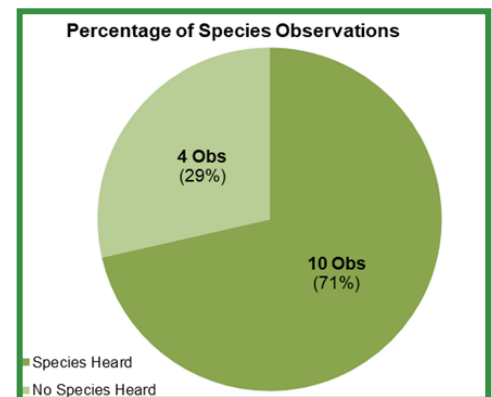
- At three sites in two wards.
- In stream and pond habitat.
- From June through August.

- The highest diversity at any one site was two species.

- Green Frog** and **Gray Treefrog** were heard calling together at pond habitat during two separate June 2017 visits.

- Spring Peeper** and **Pickerel Frog** were heard calling together at seasonal pool habitat in April 2017.

- The majority of monitoring visits (nine) were made in June and later, likely accounting for a higher occurrence of late season breeders like Green Frog and Gray Treefrog over other species that are more active in the early spring.



At least one species was heard at the majority (71%) of observation visits, and Green Frog was the most commonly heard at this subset of sites.

Other Monitoring in and around the District of Columbia

2017 Results & Future Monitoring (Continued)

- Two of the five DC sites were monitored for the minimum of three visits. Site visits should be made as frequently as possible from March through August in the District to document the full frog and toad community at a given location and to promote comparisons and trend analyses across a more robust dataset.

Outside of the District of Columbia

- Two sites were monitored in Maryland and two species were heard.
- Montgomery County, Maryland: **Gray Treefrog** was heard during two visits in April 2017 at a swamp site in the western portion of the county.
- Prince George's County Maryland: **Spring Peeper** and **Gray Treefrog** were heard at a swamp site along an area of Beaver Dam Creek in the Anacostia River watershed. The site was visited five times from March through August. American Toad, Green Frog, Southern Leopard Frog, Unknown Gray Treefrog, and Northern Brownsnake were also seen on the road while accessing the site throughout the season.
- There was no monitoring by DOEE FrogWatch Volunteers in Virginia this year.

FrogWatch USA National Program Updates

The Association of Zoos and Aquariums (AZA) manages the national FrogWatch USA™ program and reported the following for the 2017 season*:



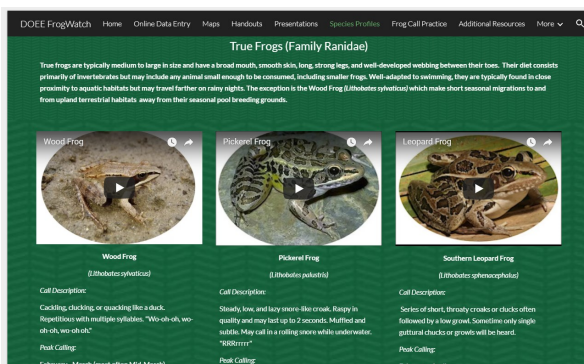
- 895 monitored sites
- 518 newly registered sites
- 11,391 observation visits, boosting the national database to more than 100,850 total (1999-2017)
- 90 species and subspecies observed

* - Data and results are provisional and subject to change

For more national updates, visit:

- AZA FrogWatch USA Homepage: aza.org/frogwatch
- Newsletters and Social Media: aza.org/frogwatch-social-media-and-newsletters

Are you feeling inspired and eager to participate in 2018? **Turn the page for 2018 season preparations and resources** and to learn about a new online resource library available to trained volunteers!



Screenshot of a portion of the “Species Profiles” page that is part of the DOEE FrogWatch online resource available to trained volunteers. Refer to this online resource often as you prepare for the upcoming season and anytime you go to the field to collect data!

2018 Season Preparations & Resources

Data collection for the 2018 season begins on March 1 and concludes August 31, 2018.

Select one or more monitoring sites, either by registering your own aquatic habitat location or adopting a DOEE-designated location. Complete the Returning Volunteer Survey (<http://bit.ly/DOEEFrogWatchReturningVolunteers>) or email doee.arec@dc.gov with your selection.

Review data collection protocols, species identification, and data submission procedures.

NEW THIS SEASON! An online resource is available to support DOEE FrogWatch citizen scientists (sites.google.com/view/doeefrogwatch) and includes sections dedicated to:

- [Online Data Entry](#) - Enter observation data via an embedded Google Form and review how to register additional monitoring sites.
- [Maps](#) - View interactive maps of monitoring stations established by DOEE Fish & Wildlife Biologists available for the 2018 season along with previously registered sites.
- [Handouts](#) - Distributed at in-person trainings and that can be reviewed and downloaded each season and as needed.
- [Presentations](#) - Four slideshows are presented to help you review in-person training materials and cover topics such as introductory material, aquatic habitat and site selection, data collection and submission, and recognizing local species.
- [Species Profiles](#) - Listen to calls and review pertinent information for the 14 species of frogs and toads that can potentially occur in the District of Columbia, including five that are considered rare or uncertain in DC, as well as other nighttime natural sounds that may be encountered during DOEE FrogWatch monitoring.
- [Frog Call Practice](#) - Watch videos, listen to recordings, and interact with review modules to hone your identification skills as you prepare for 2018 data collection in the field.
- [Additional Resources](#) - Access supplemental websites, playlists, amphibian and wetland information, additional citizen science opportunities, and more.
- [Certification Assessment](#) - Learn about and complete the process for becoming a certified FrogWatch USA™ Volunteer.
- [Surveys & Comments](#) - Communicate with chapter coordinators about your participation and provide valuable feedback.

Training Sessions for New Volunteers

Do you know someone who would like to participate in DOEE FrogWatch? New recruits may register to attend one of two in-person training sessions:

- **Saturday, March 3rd from 1:00 - 3:30 PM** at the Aquatic Resources Education Center in Anacostia Park
- **Saturday, March 17th from 1:00 - 3:30 PM** at the U.S. National Arboretum, Administration Building Classroom

Visit doee.dc.gov/service/frogwatch for additional details and to register for a session.