

Results and Analysis of the 2018 Water Chestnut Chasers Challenge



Prepared by Amy Jewitt
Pennsylvania iMapInvasives Program
August 30, 2018

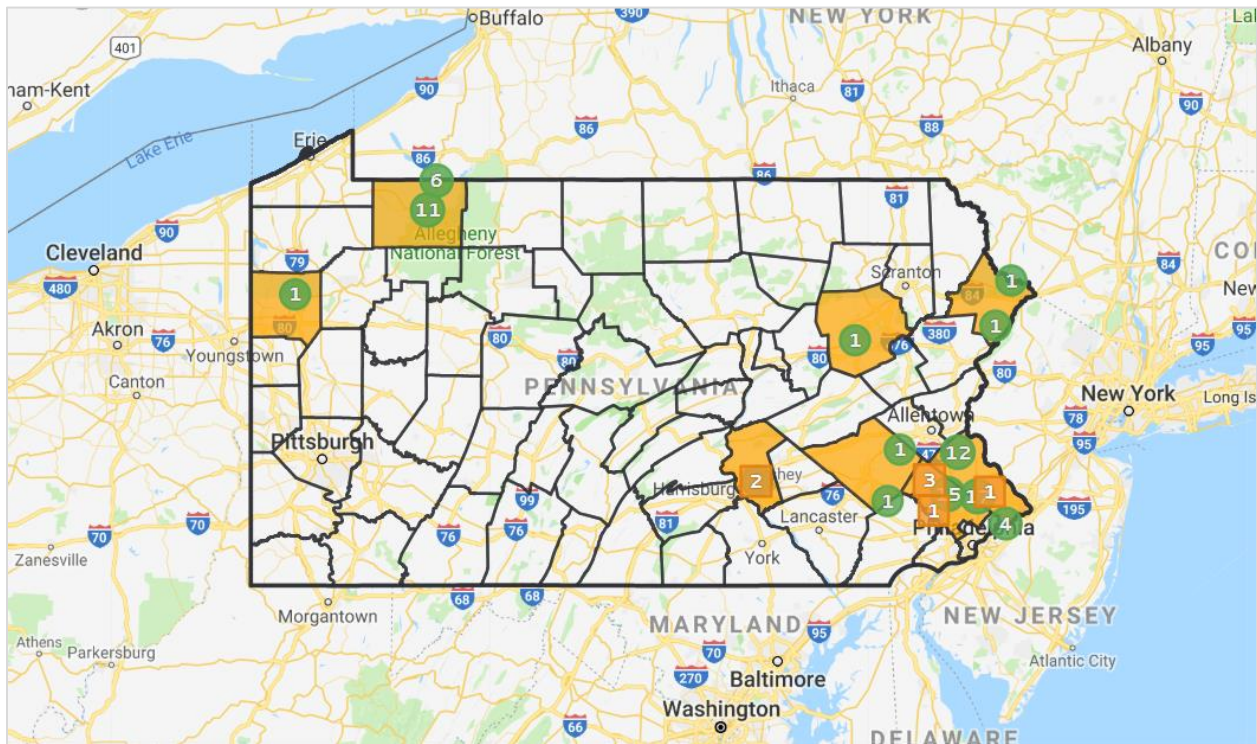
Results of the 2018 Water Chestnut Chasers Challenge (WCCC)

Participants

Nick Macelko (Penn State student)
Jim Walter (Bucks Master Watershed Stewards)
Edward Phalen (no organization provided)
Richard Cattermole (Berks Master Watershed Stewards)
Dwayne Hess (Rentokil North America)
Kierstin Carlson (Western Pennsylvania Conservancy)
Amy Jewitt (Western Pennsylvania Conservancy)

Positive findings

Prior to the beginning of the 2018 WCCC, eight counties in Pennsylvania were known to have populations of water chestnut (*Trapa natans*) with varying degrees of infestation according to data submitted to the [Pennsylvania iMapInvasives](#) database. Affected counties include Berks, Bucks, Dauphin, Luzerne, Mercer, Montgomery, Pike, and Warren. Tables A and B (below) list the waterbodies in each affected county known to have populations of water chestnut.



Distribution of water chestnut (Trapa natans) in Pennsylvania iMapInvasives, prior to the start of the 2018 WCCC on July 1, 2018.

Table A.

Berks	Bucks	Dauphin	Luzerne
Unnamed private pond, SE of Topton	Unnamed waterbody, NW of Sellersville	Unnamed waterbody, east of Harrisburg near Devonshire Heights and Beaver Creek.	Unnamed waterbody, W of Dorrance
Hopewell Lake	Delaware River, near Neshaminy State Park	Unnamed waterbody in Lower Paxton Township.	
	Lake Towhee		
	Lake Nockamixon		
	Little Neshaminy (various sections)		
	Neshaminy Creek (various places)		
	Newtown Creek		
	Bradford Reservoir		

Table B.

Mercer	Montgomery	Pike	Warren
Unnamed waterbody, S of Clarks Mills and Pine Run	Unami Creek, SE of Marlboroughville	Lake Maskenozha	Allegheny River, near Mead Island
	Unami Creek in Lake Delmont		Pond at Blueberry Hill golf course
	Unami Creek, near Perkiomenville		Pond at Cable Hollow golf course
	Upper Perkiomen Creek near Green Lane Reservoir		Akeley Swamp (State Game Lands #282)
	Knight Lake		Unnamed waterbody, W of SGL #282
	Skymount Lake		
	Indian Creek, SE of Earlington		
	East Branch Perkiomen Creek, west of Lederach		
	Unnamed waterbody in Kulpsville business complex		
	Unnamed waterbody; NE of Montgomeryville		

Tables A and B: Counties and waterbodies with infestations of water chestnut, documented in Pennsylvania iMapInvasives prior to the 2018 WCCC.

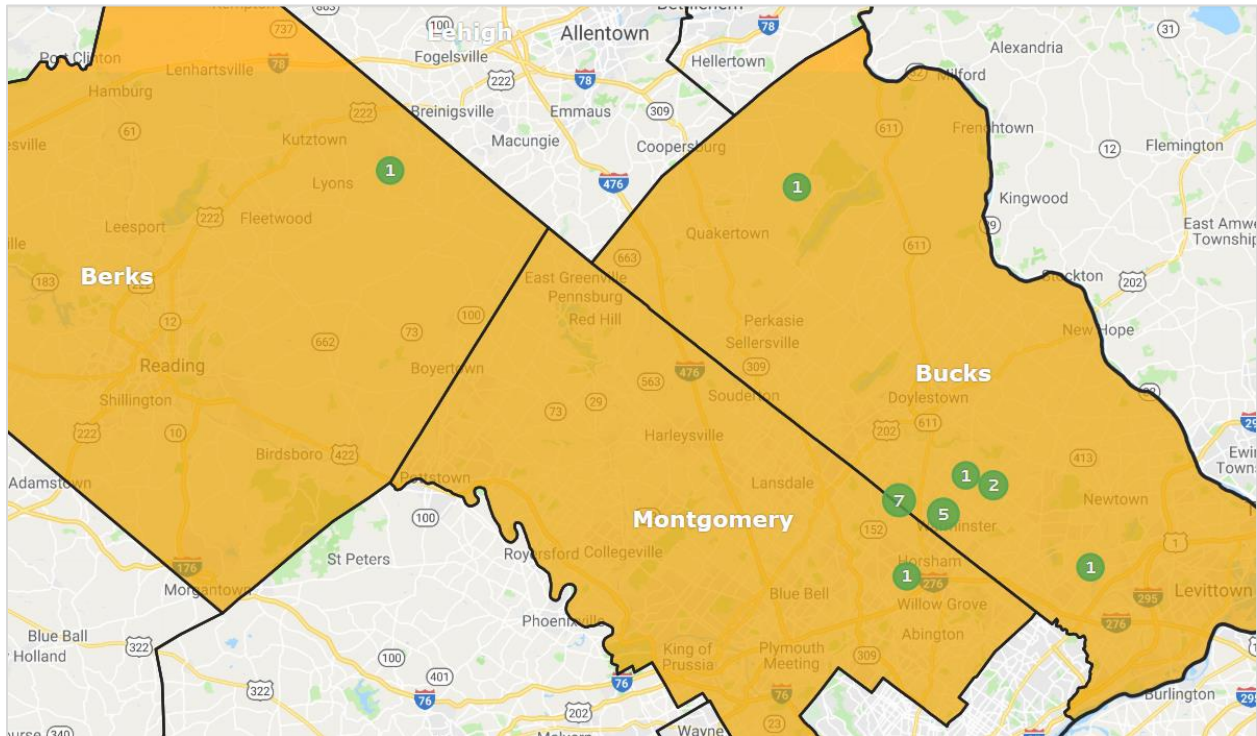
At the completion of the 2018 WCCC, 19 new water chestnut observation reports were submitted to Pennsylvania iMapInvasives. These findings were made in counties previously known to have water chestnut infestations; however, several new waterbodies within these counties were identified as having water chestnut populations. Nick Macelko, Jim Walter, Edward Phalen, Dwayne Hess, and Amy Jewitt contributed positive findings and made observation reports in Berks, Bucks, and Montgomery counties. Table C provides a list of these records.

Yellow highlighted text in Table C (below) represents observation reports made where water chestnut infestations were not previously known to exist (i.e., new location findings), totaling 10 new locations. The photos and screenshots on pages 5-9 show the photos provided by participants of the 2018 WCCC of water chestnut found at each of these 10 new locations.

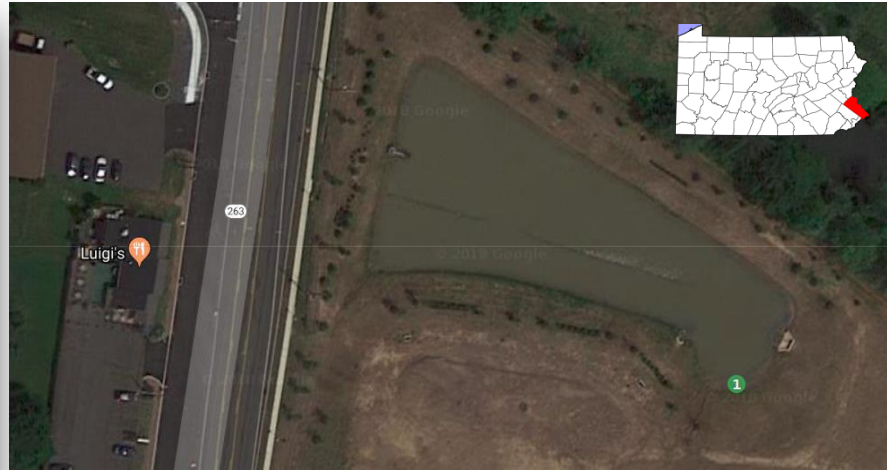
Table C.

	iMap ID#	County	Waterbody	Location	Observer
1	PA-24498U	Bucks	Bradford Reservoir	40.22781, -75.15965	Edward Phalen
2	PA-24471U	Bucks	Unnamed waterbody, near Jamison	40.24783, -75.08923	Nick Macelko
3	PA-24459U	Bucks	Lake Towhee	40.47940, -75.26733	Amy Jewitt
4	PA-24447U	Bucks	Unnamed waterbody, near Willow Manor Farms	40.21079, -75.11795	Nick Macelko
5	PA-24446U	Bucks	Unnamed waterbody, near Willow Manor Farms	40.21674, -75.11297	Nick Macelko
6	PA-24445U	Bucks	Unnamed waterbody, near Willow Manor Farms	40.21729, -75.11275	Nick Macelko
7	PA-24444U	Montgomery	Unnamed waterbody, near Arbor Glen	40.16661, -75.15150	Jim Walter
8	PA-24443U	Bucks	Unnamed waterbody near Hartsville	40.22512, -75.09707	Jim Walter
9	PA-24435U	Bucks	Neshaminy Creek, near Neshaminy Woods	40.17391, -74.95778	Nick Macelko
10	PA-24420U	Bucks	Unnamed waterbody, near Hartsville	40.22487, -75.09656	Nick Macelko
11	PA-24414U	Bucks	Little Neshaminy Creek near Hartsville/Jamison	40.23656, -75.06537	Nick Macelko
12	PA-24401U	Bucks	Little Neshaminy Creek, near Bradford Reservoir	40.22586, -75.15646	Nick Macelko
13	PA-24386U	Bucks	Little Neshaminy Creek, near Hartsville/Jamison	40.23990, -75.06023	Nick Macelko
14	PA-24375U	Bucks	Bradford Reservoir	40.22785, -75.15995	Nick Macelko
15	PA-24374U	Bucks	Little Neshaminy Creek, near Bradford Reservoir	40.22651, -75.15712	Nick Macelko
16	PA-24373U	Bucks	Little Neshaminy Creek, near Bradford Reservoir	40.22603, -75.15574	Nick Macelko
17	PA-24372U	Bucks	Little Neshaminy Creek, near Bradford Reservoir	40.22523, -75.15462	Nick Macelko
18	PA-24369U	Bucks	Little Neshaminy Creek, near Bradford Reservoir	40.22466, -75.15378	Nick Macelko
19	PA-24539U	Berks	Unnamed waterbody, near Topton	40.49270, -75.69638	Dwayne Hess

Table C. Confirmed water chestnut findings documented in Pennsylvania iMapInvasives from the 2018 WCCC. Text highlighted in yellow indicates observation reports made where water chestnut infestations were not previously known to exist.



Nineteen new water chestnut observations were submitted to Pennsylvania iMapInvasives from the 2018 WCCC, all seen here in southeastern Pennsylvania.



View of (newly reported) water chestnut plants at an unnamed waterbody near Jamison in Bucks County, as reported to Pennsylvania iMapInvasives by Nick Macelko; (PA-24471U).



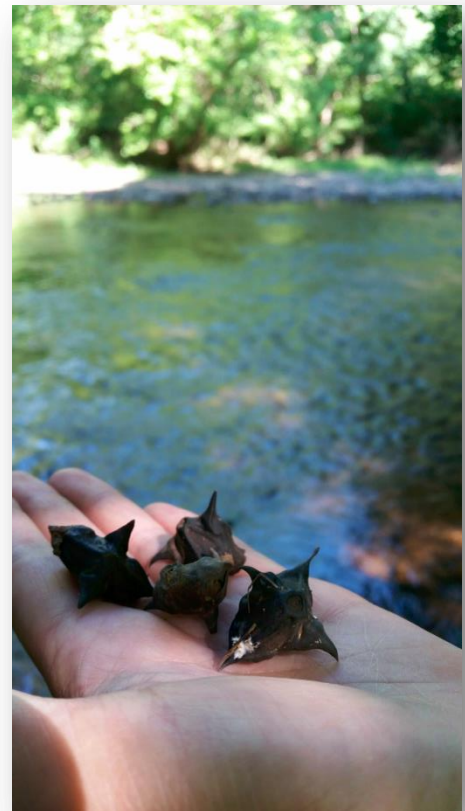
5 *Infestation of water chestnut in an unnamed waterbody near Arbor Glen in Montgomery County, observed by Jim Walter, Master Watershed Steward; (PA-24444U).*



Infestation of water chestnut in an unnamed waterbody near Willow Manor Farms in Bucks County, observed by Nick Macelko; (PA-24446U).



Water chestnut nutlets (seeds) found in Little Neshaminy Creek near the towns of Hartsville and Jamison in Bucks County, observed by Nick Macelko; (PA-24414U).





Infestation of water chestnut in an unnamed waterbody near Willow Manor Farms in Bucks County, observed by Nick Macelko; (PA-24447U).

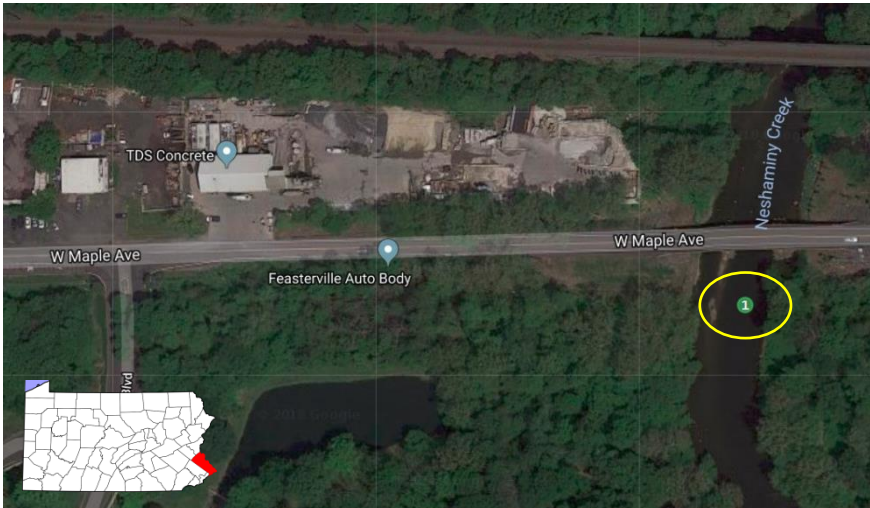


Water chestnut nutlets (seeds) found in golf course pond near Willow Manor Farms in Bucks County, observed by Nick Macelko; (PA-24445U).



ABOVE and BELOW: Infestation of water chestnut in an unnamed waterbody near Hartsville in Bucks County, observed by Jim Walter above (PA-24443U) and Nick Macelko below (PA-24420U).





Water chestnut nutlet (seed) found in Neshaminy Creek near Neshaminy Woods in Bucks County, observed by Nick Macelko; (PA-24435U).



Water chestnut nutlet (seed) found in Little Neshaminy Creek near the towns of Hartsville and Jamison in Bucks County, observed by Nick Macelko; (PA-24386U).

Negative findings

In addition to receiving presence data for water chestnut, another important component of the 2018 WCCC was the documentation of absence data (i.e., places where water chestnut was searched for but not found). This data was valuable to capture as it shows areas that are, for the time being, free and safe from water chestnut and the negative environmental impacts it causes. If water chestnut were found at any of these locations in the future, it can be assumed an infestation emerged after the date of the negative survey.

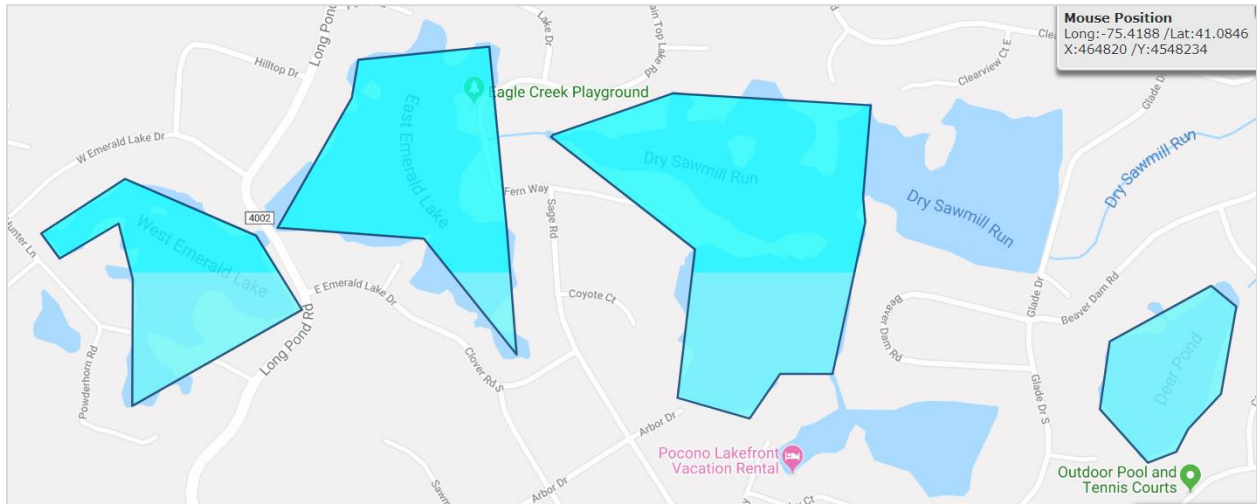
Below are several examples of absence survey records created by participants in the 2018 WCCC.

Kierstin Carlson (Western Pennsylvania Conservancy) searched two waterbodies in North Park (Allegheny County) as part of the 2018 WCCC. Her search at these two locations turned up no findings of water chestnut, represented by the blue polygons in the screenshot below.



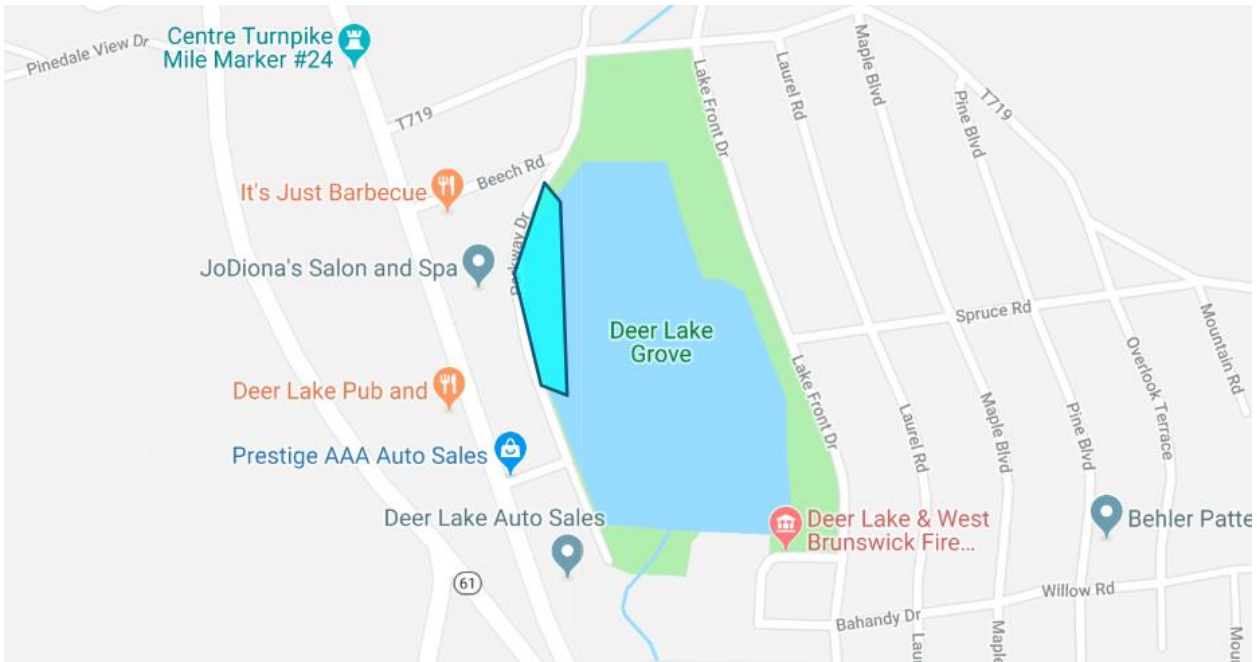
Two blue polygons represent locations where Kierstin Carlson (WPC) searched for and did not find water chestnut in North Park (Allegheny County). (PA-2297U-S and PA-2296U-S)

Jim Walter, Bucks Master Watershed Steward, surveyed four large waterbodies in the Poconos (Monroe County) including West Emerald Lake, East Emerald Lake, (a section of) Dry Sawmill Run, and Deer Pond. His search of each waterbody turned up no findings of water chestnut.



Jim Walter (Bucks Master Watershed Steward) searched for and did not find water chestnut in four large waterbodies in the Poconos. (PA-2299U-S, PA-2301U-S, PA-2302U-S, and PA-2303U-S)

Richard Cattermole, Berks Master Watershed Steward, searched a section of Deer Lake Grove (Schuylkill County) and found several species including cattails, iris, and several turtles, but no water chestnut. His absence record is represented by the blue polygon in the screenshot below.



Richard Cattermole (Berks Master Watershed Steward) searched for and did not find water chestnut in a section of waterbody known as Deer Lake Grove in Schuylkill County. (PA-2310U-S)

A total of 33 waterbodies (or sections of a waterbody) were searched during the 2018 WCCC and found not to contain water chestnut, accounting for an estimated 540.90 acres surveyed. Table D outlines each of these documented absence searches.

Table D.

iMap ID#	County	Waterbody	Search Area (Acres)	Observer
PA-2327U-S	Bucks	Unnamed waterbody, N of Feasterville inside business park	2.18	Nick Macelko
PA-2326U-S	Bucks	Barclay Pond	3.11	Nick Macelko
PA-2325U-S	Montgomery	Perkiomen Creek, near Perkiomenville Mennonite Church	0.27	Nick Macelko
PA-2324U-S	Montgomery	Schuylkill River near Mill Creek	5.49	Nick Macelko
PA-2323U-S	Bucks	Unnamed waterbody, W of Neshaminy Creek	1.57	Jim Walter
PA-2322U-S	Bucks	Neshaminy Creek (section), W of Rt. 263	2.29	Jim Walter
PA-2321U-S	Bucks	Neshaminy Creek (section), E of Rt. 263	2.65	Jim Walter
PA-2320U-S	Bucks	Unnamed waterbody on Robin Run Farm, near Rt. 373	0.16	Jim Walter
PA-2319U-S	Bucks	Robin Run Lake, near Robin Run and Rt. 373	7.76	Jim Walter
PA-2318U-S	Berks	Ontelaunee Lake (small section in southern part of lake)	16.65	Richard Cattermole
PA-2317U-S	Schuylkill	Locust Lake, in Locust Lake State Park	3.95	Richard Cattermole
PA-2316U-S	Schuylkill	Auburn Desilting Basin (large middle section)	109.24	Richard Cattermole
PA-2315U-S	Berks	Blue Marsh, near N boat launch and SGL #280 (section)	54.26	Richard Cattermole
PA-2314U-S	Berks	Hopewell Lake (small section in western part of lake)	0.21	Richard Cattermole
PA-2313U-S	Lehigh	Leaser Lake, near Jacksonville	122.13	Richard Cattermole
PA-2312U-S	Bucks	Neshaminy Creek, near Rushland	2.70	Jim Walter
PA-2311U-S	Bucks	Unnamed waterbody, SE of Jamison	2.61	Jim Walter
PA-2310U-S	Schuylkill	Deer Lake Grove (small section)	2.02	Richard Cattermole
PA-2309U-S	Berks	Unnamed waterbody along Mill Creek, NE of Shartlesville	1.45	Richard Cattermole
PA-2308U-S	Berks	Unnamed waterbody, N of Edenburg and W of Port Clinton	9.14	Richard Cattermole
PA-2307U-S	Berks	Unnamed waterbody, S of Appalachian Trail, N of Schubert	0.54	Richard Cattermole
PA-2306U-S	Berks	Unnamed waterbody, S of SGL #110.	1.02	Richard Cattermole
PA-2305U-S	Berks	Kaercher Creek Lake (section) in Kaercher Creek Park	5.00	Richard Cattermole
PA-2304U-S	Bucks	Unnamed waterbody, NW of Feasterville	0.67	Nick Macelko
PA-2303U-S	Monroe	West Emerald Lake in the Poconos	17.40	Jim Walter
PA-2302U-S	Monroe	Deer Pond in the Poconos	10.11	Jim Walter
PA-2301U-S	Monroe	East Emerald Lake in the Poconos	24.70	Jim Walter
PA-2300U-S	Bucks	Neshaminy Creek (section) in Dark Hollow Park	0.12	Jim Walter
PA-2299U-S	Monroe	Dry Sawmill Run (lake) in the Poconos	40.36	Jim Walter
PA-2298U-S	Bucks	Neshaminy Creek (section), northern part of Tyler State Park	55.65	Nick Macelko
PA-2297U-S	Allegheny	Marshall Lake, in North Park	13.08	Kierstin Carlson
PA-2296U-S	Allegheny	Unnamed waterbody, along Brown Road in North Park	1.30	Kierstin Carlson
PA-2295U-S	Bucks	Neshaminy Creek (section), southern part of Tyler State Park	21.11	Nick Macelko

Table D. A total of 33 absence survey records were recorded in Pennsylvania iMapInvasives as a result of the 2018 WCCC where water chestnut was searched for but not found.

Conclusion

Thanks to each of the 2018 WCCC participants for contributing your time and passion to this event. Your involvement continues to advance efforts to detect water chestnut, a important high priority invasive species in Pennsylvania. To see the full list of participants in the 2018 WCCC, see page 2.

The results of the 2018 WCCC will be distributed to each WCCC participant as well as natural resource professionals across Pennsylvania that reside in counties with known water chestnut populations. It is the goal of the 2018 WCCC that natural resource professionals and citizen scientists can be equipped with knowledge of infested locations so that on-the-ground treatment efforts can either begin or continue where they are already underway. These treatments efforts will ultimately lead to a strengthened native ecosystem area and increased opportunities for people to engage in outdoor recreation.

For anyone who is interested in the WCCC but was unable to participate in 2018 Challenge, note that plans are underway to host this event in 2019. To learn more or to pre-register for the 2019 WCCC, please contact Amy Jewitt, Pennsylvania iMapInvasives Coordinator, at ajewitt@paconserve.org or 412-586-2305.