



2014 Upper Delaware BioBlitz

Final Report

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The 2014 Upper Delaware BioBlitz took place on June 28th and 29th at the Ten Mile River Scout Camp owned by the Greater New York Councils of the Boy Scouts of America in Tusten Township, Sullivan County, NY. An approximately 500 acre section of the 12,000 acre property was demarcated for the purposes of the BioBlitz. The section was bounded by the Delaware River, Ten Mile River, Rock Lake Creek, Maul's Pond, Grassy Swamp Pond, Grassy Swamp Creek, Rock Lake and the 1100 foot contour on the ridge above and southwest of Rock Lake (see map).

It was an excellent site featuring multiple habitat types for the teams. It included uplands and lowlands, the Delaware River, Ten Mile River and smaller tributaries, 3 lake types and wetland areas. There were open meadows as well as mature forested areas of mixed deciduous hardwoods and evergreens. Photo Credit: Scott Rando



Over 60 scientists and amateur naturalists from across Pennsylvania and New York took part in the collection, identification and cataloguing of the living things visible to the naked eye on the property during the 24 hour event.

Collections began at 12 noon on June 28th and concluded at noon on June 29th.

On June 29th from 9 AM to 3 PM the public was invited to come and see what had been collected, talk to the scientists, take tours and attend programs on site.

More than 25 volunteers helped run the event with the BioBlitz 12 member steering committee. Nineteen organizations and many individuals funded the event.

There were about 250 visitors to the site during the public portion of the event. Photos from the event and press can be found on the BioBlitz website at: www.upperdelawarebioblitz.com

The weather was perfect for the event with sunny skies and moderate temperatures in the 70s during the day and the late spring and rain in previous days helped some of the teams such as Fungi, Birds and Botany find many species.

884 unique species were identified during the event. Of these, 123 were first occurrences for Sullivan County, adding considerable publicly accessible biological data and field research for this area of the Upper Delaware watershed.

The number of species and first occurrences by team summary is:

Team	Species	First Occurrences
Aquatic Macroinvertebrates (Aquatic Insects, Mussels, Snails)	82	
Birds	85	
Botany (Plants)	247	73
Bryology (Mosses, Lichens and Worts)	154	45
Fish	25	
Fungi (Mushrooms and Molds)	103	
Herps (Reptiles and Amphibians)	24	
Invertebrates (Terrestrial Insects, Worms, Snails)	145	5
Mammals	19	
Total	884	123

Following are some of the highlights reported by the teams.

The **Aquatic Macroinvertebrates Team** easily surpassed their 2013 total with good surveying weather and extra help from the Stroud Water Research Center and informed by a pre-BioBlitz survey from the NPS Eastern Mountain and Rivers Network team.

The **Bird Team** was delighted to be able to identify 85 bird species in this year's BioBlitz. The timing of the event was on the outer edge of "official" breeding season for many species. As the season slows, the singing slows with it because the pairs have been formed and the partners are busy feeding young, at the nest and on the wing.

Joining forces this year were the Northeast Pennsylvania Audubon Society and the Sullivan County Audubon Society to form a larger team working in shifts to cover the large survey area.

Highlights were the Louisiana and Northern Waterthrushes which are generally found by their territorial singing in late April and May respectively. These were both by direct observation in the habitats that were expected to support them. The other really nice find, was an Ovenbird nest with an incubating female and 3 eggs. Most birders never get to see this warbler let alone find their nest which is concealed on the ground. The 2 singing Hooded Warblers on the yellow dot trail at Ten Mile Access was, also, a very nice surprise. Barbara Leo, Bird Team Leader said “the team really worked hard but, also, had a great time.”

The **Botany Team**, once again led by Sarah Chamberlain of Penn State Riparia, documented 247 species of plants, trees and shrubs including 73 Sullivan County first occurrences. 188 of these species are native according to the team and 51 are invasives. This is a much higher ratio of natives to invasives than the 2013 BioBlitz which surveyed largely in a floodplain where we would expect many invasives.

The team was especially impressed with the wetland and bog at Grassy Swamp Pond. Team Leader Sarah Chamberlain performed a Floristic Quality Assessment Index of the site divided into 5 habitats. Sarah reports that “the scores for Mesic Forest and Wetland/Bog are some of the highest I've seen. Definitely habitat worth protecting!”

Floristic Quality Assessment Indexes indicate the ecological value of the habitat with high FQAI scores indicating occurrences of plants that require very specific natural habitat conditions to flourish and low scores indicating occurrences of plants that thrive in a variety of conditions including disturbed and poor soils.

The FQAI scores for the different habitats are:

Edge = 5.2
Mesic Forest = 51.6
Riparian Forest = 30.9
Pond/Lake = 39.6
Wetland/Bog = 58.4

A brief description of FQAI is available at:

<http://www.fws.gov/midwest/Endangered/section7/s7process/plants/FQA.html>

Led by Keith Bowman, an independent Bryologist who got his degree from ESF in Syracuse, NY, the **Bryology Team** identified an impressive total of 154 species of mosses (97), lichens and liverworts (32). This almost triples the number reported in 2013. The team also reported a total of 45 Sullivan County first occurrences in just Mosses and Liverworts. This represents more the limited bryological research that has occurred here in the past than the rareness of the species. Nevertheless, Keith reports that “it was an awesome BioBlitz for diversity of the bryophytes.” Karen Fisher collected 25 lichen specimens from the property. These were sent to James Lendemer at the New York Botanical Garden for verification and the results of his analysis will be reported at a later date.

The **Fish Team** collected 25 species on the site. They actively seined, netted and electroshocked all of the flowing and still water bodies on the property and their electroshocking demonstrations were a hit, as always, with the public. Photo credit Dave Soete.



The **Fungi Team** doubled their species count over 2013 thanks to the diversity of the site and the late spring and recent rains. Team Leader Jack Barnett reports that the team, including members of the Delaware Highlands Mushroom Society, The New York Mycological Society and the Wyoming Valley Mushroom Club, had a great time on a bountiful site.



Dr. Thomas LaDuke's **Herps Team** also substantially increased their species count this year to 26 species of salamanders, newts, frogs, toads and turtles including five different species of snake. A few collected specimens were displayed at the Team's table in the Base Camp Tent and visitors, young and old alike, were fascinated to get up close and personal with the live animals who were returned to their exact habitat location after the event was over.

Don Hamilton, Chief of Resource Management for the NPS Upper Delaware Scenic and Recreational River and co-coordinator of the BioBlitz, was this year's **Terrestrial Invertebrates Team** leader. He fielded a pickup team with equipment borrowed from ESU's Entomology Department and a team of Odonataphiles in the area for the Northeast Dragonfly Society of the Americas meeting happening that same weekend.

While the Team's totals were significantly lower than last year, everyone helped the team out including the Fungi Team which found several species in their mushroom collection and the Bryology Team which found 5 species of ants in their moss collection.

The team identified 5 Sullivan County first occurrences including one species, the Banded Pennant, which had not been seen in the Northeast in 60 years. They found some of the largest and the smallest (Elfin Skimmer) dragonflies from the region. One species of water mites was even identified on the rare Banded Pennant emerging from it's exuvia by a photograph from Scott Rando (small red dots on lower body in photo at right).



The **Mammal Team** recorded 19 species, which included 6 bat species handily beating last year's total. One significant observation was of a good-sized maternity colony of little brown bats (*Myotis lucifugus*). Given the drastic declines in little brown bats following

the appearance of White-nose Syndrome, this colony is important and should be protected from disturbance.

Dr. Howard Whidden of ESU, the Mammal Team Leader, stated “thank you for inviting me to the BioBlitz this year. It was very well run and at a beautiful site – and with excellent food! You and your crew did a great job with it, and I’ll look forward to participating in the one next year.”

The detailed collection inventory including individual team logs are available online at: <http://www.upperdelawarebioblitz.com/science/default.html>

Photos from the event and videos of the 2014 BioBlitz produced by Ed Rogers of the Delaware River Network are available online at: http://upperdelawarebioblitz.com/photo_gallery/default.html

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- **Catskill Mountainkeeper**
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- **Norcross Wildlife Foundation**
- **Open Space Institute**
- **Pennsylvania Native Plant Society**
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