

**2013 Upper Delaware BioBlitz**

## **Final Report**

**Presented by Steven Schwartz, 2013 Upper Delaware BioBlitz Coordinator**

**August 28, 2013**

**The 2013 Upper Delaware BioBlitz took place on June 28th and 29th at the “Gales Property” owned by the Norcross Wildlife Foundation in Starlight, Wayne County, PA. The 63.5 acre property is bordered by Shehawken Creek, the West Branch and Main Stems of the Delaware River and PA State Rt. 191.**

**Over 50 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, and take tours and attend programs on site.**

**Over 25 volunteers helped run the event with the BioBlitz 14 member steering committee. Eight organizations and many individuals funded the event.**

**There were about 200 visitors to the site during the public portion of the event. Photos from the event and press can be found on the event website at** [www.upperdelawarebioblitz.com](http://www.upperdelawarebioblitz.com)

**During the early morning hours of June 28th over 5 inches of rain fell in the local area making access very difficult via washed over local township roads and some state roads. The nearby public boat access at Shehawken Creek was washed away and the rivers and creek bordering the property were very high, debris filled and muddy. While these conditions made collections difficult for the aquatic teams the site stayed dry and fully accessible for the other teams and the public.**

**1,024 unique species were identified during the event.**

**The number of species by team summary is:**

|  |  |
| --- | --- |
| **Team** | **Species** |
|  |  |
| Aquatic Macroinvertebrates (Aquatic Insects, Mussels, Snails) | 67 |
| Birds | 57 |
| Botany (Plants) | 268 |
| Bryology (Mosses and Lichens and Worts) | 67 |
| Fish | 28 |
| Fungi (Mushrooms and Molds) | 51 |
| Herps (Reptiles and Amphibians) | 16 |
| Invertebrates (Terrestrial Insects, Worms, Snails) | 458 |
| Mammals | 12 |
| Total | 1,024 |

**Following are some of the highlights reported by the teams.**

**The Aquatic Macroinvertebrates Team, though hampered by the high water, was able to identify an impressive total of 67 species and a separate mussel team doing field research near the site prior to the event was able to identify a large number of native and extremely rare mussel species in the area.**

**The Bird Team identified an American Black Duck, out of its natural range, believed to have been blown in by the storm the day before.**

**The Botany Team, with the participation of acclaimed scientist and author Ann Rhoads, documented 268 separate species of plants. 192 of these species are native according to the team and 75 are invasives. Of note, the team recorded 29 first occurrences in Wayne County, 11 native species and 18 invasives. Team Leader Sarah Chamberlain performed a Floristic Quality Assessment of the site divided into 3 habitats. The mixed forest area including the uplands at the southern end of the site scored highest in diversity of plants requiring specific high quality habitat. As you would imagine, the areas prone to flooding had the highest numbers of invasives and species with less habitat sensitivity.**

Led by Scott Schuette, Bryologist from the Western Pennsylvania Conservancy in Pittsburgh, The **Bryology Team,** identified an impressive total of 67 species of mosses, lichens and liverworts. Of the 42 mosses identified, 31 had never been reported to occur in Wayne County! This represents more the limited bryological research that has occurred here in the past than the rareness of the species but Scott states that they increased the total number of species reported in Wayne County by more than 70%. Karen Fisher collected 27 specimens from the property. These were sent to James Lendemer at the New York Botanical Garden and he verified the identifications of 15 lichen species from the property. Scott and his colleague Dave Krayesky are drafting a publication for the bryological field journal Evansia to document the importance of protected habitats to bryodiversity.

**The Fish Team collected the Bridle Shiner (*Notropis bifrenatus*)** on the site. It **had previously been found in adjacent river back channels but was found in a new location on the property during the event. The Bridle Shiner is a critically imperiled endangered species in Pennsylvania.** <http://www.naturalheritage.state.pa.us/factsheets/11313.pdf>

**The Fungi Team found 51 species during a month not known for the proliferation of mushrooms in northeastern Pennsylvania.**

**The snake specialists on the Herps Team were especially hampered by the previous night’s inundation but the team was still able to record an impressive 16 species of salamanders, newts, frogs, toads and turtles and one Northern water snake.** They captured a juvenile specimen which they thought might be a Fowler’s toad. Thomas LaDuke reported: “I’m not convinced that our specimen was **not** a Fowler’s, but all of the resources that I have consulted have mentioned how difficult it can be to identify juveniles and how their distinguishing characteristics just are not clear until they reach adulthood…  The specimen that we had in hand was definitely borderline on some characteristics.  Also, that would be a pretty big range extension to base on a single juvenile specimen**.”**

**Jon Gelhaus,** Curator of Entomology at The Academy of Natural Sciences of Drexel University **and leader of the Terrestrial Invertebrates team reports: “**We had around 130 species of moths to the sheet - quite a diversity.  One moth, the Black Witch, is a southern species which occasionally strays up to the north - we had one female which is a quite early record for the region.  The wave of storms we had in June from the south probably contributed to it occurrence.

All of the 27 crane flies recorded are new records for Wayne County - no crane flies were previously known for the county.  Several species were even more interesting records, all aquatic as larvae, and all second records for Pennsylvania.  In particular, the previous Pennsylvania record for Cryptolabis paradoxa, a river species, was in 1917!

There were nearly 20 species of ground beetles, a group which shows very specific microhabitat associations.

Where the species is marked "voucher specimen", a specimen is deposited in the collections of the Academy of Natural Sciences of Drexel University, here in Philadelphia.  Along with a label for the locality and date, etc., there will be a separate label denoting it was collected during the Upper Delaware River BioBlitz 2013 and that identifications should be reported to me.”

The mosquito specimens were tested for West Nile Virus by Mike Hutchinson, who heads up the states mosquito lab and Mike reported the tests were negative.

As pointed out by Rich Horwitz, **Fish** Team Leader, there appears to be some duplication between the species recorded by the **Aquatic Macroinvertebrate** and **Terrestrial Invertebrates** teams. Due to differences in collection protocols and the taxonomic level to which species were keyed out this has been difficult to sort out. Like Roger Maris’s 61st home run we will add a virtual asterisk to the results and endeavor to do a better job of synchronizing these two teams next time!

The **Mammal Team** recorded 12 species, which included 4 bat species. Although they were unable to trap any bats by mist netting, Team Leader Jessica Newbern reports, “we set up acoustic monitoring equipment on the property Friday night, and using bat call analyzing software we can say there were 4 bat species. Unfortunately, none of the species were of the Myotis genus that has been hit the hardest by White Nose Syndrome in this area, it was an unexpected outcome.”

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

**Funding and support for the 2013 Upper Delaware BioBlitz were provided by:**

* **National Park Service**
* **Norcross Wildlife Foundation**
* **Pennsylvania Native Plant Society**
* **Wayne County Community Foundation**
* **Northeast Pennsylvania Audubon Society**
* **Delaware Riverkeeper Network**
* **Friends of the Upper Delaware River**
* **Delaware Highlands Conservancy**
* **Verizon Wireless**
* **Monroe County Conservation District**
* **Paul and Scott Hunt**
* **The 2013 Upper Delaware BioBlitz Steering Committee and many event volunteers**