

RESULTS OF A BIOBLITZ AT WESSELMAN WOODS NATURE PRESERVE, VANDERBURGH COUNTY, INDIANA

Daryl R. Karns¹, Donald G. Ruch², Robert D. Brodman³, John S. Castrale⁴, James R. Gammon⁵, Paul E. Rothrock⁶, Dale W. Sparks⁷ and James R. Stahl⁸: ¹Rivers Institute and Biology Department, Hanover College, Hanover, Indiana 47243 USA; ²Department of Biology, Ball State University, Muncie, Indiana 47306 USA; ³Biology Department, St. Joseph's College, Rensselaer, Indiana 47978 USA; ⁴Indiana State Division of Fish and Wildlife, 562 DNR Road, Mitchell, Indiana 47466 USA; ⁵DePauw University, Professor Emeritus, Greencastle, Indiana 46135 USA; ⁶Randall Environmental Center, Taylor University, Upland, Indiana 46989 USA; ⁷Department of Ecology and Organismal Biology, Indiana State University, Terre Haute, Indiana 47809 USA; ⁸Indiana Department of Environmental Management, 100 N. Senate Avenue, MC65-40-2 Shadeland, Indianapolis, Indiana 46204 USA

ABSTRACT. We report the results of a BioBlitz held on 24–25 October 2008, at the Wesselman Woods Nature Preserve in Evansville, Indiana, Vanderburgh County. We recorded 260 taxa, including 136 species of vascular plants, 45 fungi and slime molds, 22 aquatic invertebrates, 1 fish, 3 amphibians, 2 reptiles, 6 mammals, and 45 birds.

Keywords: BioBlitz, biodiversity, Wesselman Woods, Indiana

A BioBlitz is a rapid assessment of the species found in a particular area over a short time period, typically 24 hours (Lundmark 2003). Although limited in duration, they can provide valuable scientific information, increase public appreciation of local biodiversity, and promote awareness of conservation issues (Karns et al. 2006). Since the first formally recognized BioBlitz in Washington D.C. in 1996 (Post 2003; Droege 2006), BioBlitz events have become increasingly popular and numerous government agencies, academic institutions, and private groups have adapted the BioBlitz concept. Ladonski (2009) notes that, since 2000, there have been 16 BioBlitz events in Indiana, 10 in Illinois, 34 in Ohio, and 11 in Michigan.

We report the results of a BioBlitz held on 24–25 October 2008 at the Wesselman Woods Nature Preserve in Evansville, Indiana, Vanderburgh County. The Rivers Institute at Hanover College and the Biodiversity and Natural Areas Committee of the Indiana Academy of Science partnered with the Wesselman Nature Society to conduct the BioBlitz in conjunction with the annual Fall meeting of the Indiana Academy of Science. Wesselman

Woods Nature Preserve is an Indiana State Nature Preserve and National Natural Landmark featuring nearly 200 acres (81 ha) of old growth, bottomland hardwood forest of exceptionally high quality. The forest is located within the city limits of Evansville, Indiana; through a fortunate series of historical events, the core forest area has never been intensively logged (Ribbens 2000). Wesselman Woods is dominated by sweet gum and tulip poplar; the mean density of trees (309 trees per hectare) and basal area per hectare (= 42.9 m² per hectare) are extremely high for Indiana forests (Lindsey et al. 1969); many trees reach 30 m in height and are estimated to be nearly 300 years old. In addition to its rich botanical diversity, Wesselman Woods also provides crucial habitat for a variety of animal species (Ribbens 2000). No other city in the United States with a population exceeding 100,000 has, within its corporate limits, a nature preserve of such acreage and quality (<http://www.wesselmannaturesociety.org/woods/index.php>).

Approximately 35 scientists, students, and local naturalists participated in the BioBlitz. There were six taxonomic teams (plants, fungi, fish and aquatic invertebrates, amphibians and reptiles, mammals, and birds). The BioBlitz



Figure 1.—The Marbled Salamander (*Ambystoma opacum*). The salamander shown is a female brooding her eggs (the small mud-covered spheres). Marbled Salamanders differ from other mole salamanders (Ambystomatidae) in that they lay their eggs in the fall around the edges of ponds and wait for water to fill up the pond and hatch the eggs. The pond at the time of the BioBlitz was completely dry. Photo by Andrew Hoffman.

began on Friday afternoon, 24 October, extended into Friday evening, and culminated on Saturday afternoon, 25 October. Air temperatures ranged from 10–20 °C during the BioBlitz; cloud cover was variable, and there was some rain on Friday night.

The complete species lists for the BioBlitz are on the Indiana Academy of Science Website at indianacademyofscience.org. On the website, locate the Events/Meetings page, and then go to “BioBlitz Archive,” then to “Wesselman Woods BioBlitz” (Tables 1–8). The Wesselman Woods BioBlitz recorded 260 taxa, including 136 species of vascular plants, 45 fungi and slime molds, 22 aquatic invertebrates, 1 fish, 3 amphibians, 2 reptiles, 6 mammals, and 45 birds. In the following taxonomic sections, the name(s) in parentheses indicates the individual(s) who verified identification; we took photos of many species, but no voucher specimens were collected.

Vascular plants.—(Paul Rothrock). Of the 136 species of vascular plants recorded, 117 (86.0%) were native and 19 (14.0%) were non-native. The

list includes 47 trees, 6 shrubs, 12 vines, 9 grasses, and 6 fern and fern allies. The state endangered sedge, *Carex aureolensis* Steud, was found at Wesselman, a new state record.

The floristic quality index (Rothrock 2004) for the native species is 39; the native mean C is 3.5. These indicate that the site retains remnant natural quality. We would expect both metrics to be higher if spring and summer species were added to the list. Non-native species are perhaps more evident during this period of the year because they often remain green later into the autumn than most native species. Because Wesselman Woods is a flat woods with many vernal pools and poorly drained areas, the average plant species was facultative, i.e., adaptable to a range of moisture conditions.

Fungi and slime molds.—(Donald Ruch). Among the 44 species of fungus we recorded, there were 43 basidiomycetes, 1 ascomycetes, and 1 slime mold. No unusual taxa were found; due to dry conditions most of the mushrooms collected were wood rots (lignicolous decomposers).

Aquatic invertebrates & fish.—(James Gammon & James Stahl). We electro-fished and dip-netted in a small perennial first order stream and a 0.1 hectare pond. We collected 22 taxa (10 species & 12 taxa identified to genus or family) of invertebrates, including one isopod, 1 decapod, 4 pelecypods, 1 gastropod, 1 leech, 1 annelid, 1 triclad, 5 dipterans, 2 odonates, 2 coleopterans, 2 hemipterans, and 1 megalopteran. The only fish collected were Green Sunfish (*Lepomis cyanellus*) from the stream. We suggest that Wesselman Woods consider relocating the stream to its original channel; the current ditch severely limits the diversity of aquatic organisms.

Amphibians and reptiles.—(Robert Brodman). We employed hand collecting, minnow traps, and turtle traps and recorded only two salamander species, one frog, and two turtles. We found female marbled salamanders (*Ambystoma opacum*) brooding their eggs in a dry seasonal pond (Fig. 1); 12 individuals and 4 nests were recorded. The time of the year and cold weather were the primary reasons for the low number of amphibians and reptiles recorded. Mike Lodato, a local herpetologist, found 24 species (12 amphibians and 12 reptiles) over a 10-year survey period (1962–1972) (unpublished list).

Mammals.—(Dale Sparks). We set up two bat mist nest stations but, due to weather, collected no bats. We also deployed Sherman traps for trapping small mammals. We trapped two species of mice and documented the occurrence of white-tailed deer, fox squirrels, and eastern moles.

Birds.—(John Castrale). We surveyed by sight (binoculars) or sound (owl tapes sometimes used) with teams mostly confined to walking along trails. We used mist-netting for educational purposes. Habitats consisted of seasonally wet flatwood forest, wooded park areas, a prairie planting, small impoundments, a bird-feeding area, mowed grasslands and a golf course. We recorded a few migrant species that were somewhat unusual because of their relatively late seasonal occurrence (House Wren, Swainson's Thrush, Black-throated Green Warbler, Rose-breasted Grosbeak).

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