

BioBlitz Results



Conner Prairie June 8 and 9, 2013

**RESULTS OF THE 2013 CONNER PRAIRIE BIODIVERSITY SURVEY
HAMILTON COUNTY, INDIANA**

Compiled from the Science Team Reports
by Don Ruch (Indiana Academy of Science) and Gail Brown (Conner Prairie)

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BIODIVERSITY SURVEY
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Conner Prairie, founded by pharmaceutical executive Eli Lilly in the 1930s, is an Interactive History Park or a living museum. It is located 6 km north of Indianapolis in Fishers, Indiana. The 850 acres that presently make up Conner Prairie have a unique place in Indiana history. The property has been witness to many of the changes Indiana's environment has undergone -- from the glaciers that shaped much of the Hoosier landscape to the slow influx of humans over the past 12,000 years and the cultural changes they have made to the terrain.

The first biodiversity survey (commonly called a bioblitz) of Conner Prairie was conducted on June 8-9, 2013. The 2013 Conner Prairie Bioblitz will provided a better understanding the vast biological resources at the site. Further, it provided information on how to conserve and interpret the natural setting. Moreover, it provided a unique snapshot on how human development impacts these isolated islands of natural habitat in an ever expanding suburban region.

The bioblitz attracted nearly 50 scientists, naturalists, students, and others volunteering their time and expertise to make the event an overwhelming success. Food and lodging for the participants were provided through the generous support of Conner Prairie and The Indiana Academy of Science (IAS).

The 11 teams and their leaders reported over 848 taxa:

<u>Team</u>	<u>Leader</u>	<u>Number of Taxa Found</u>
Amphibians and Reptiles	Robert Brodman	15 (4 county records)
Aquatic Macroinvertebrates	Paul McMurray	34 (4 county records)
Beetles	Jeffrey D. Holland	101 (25 families)
Birds	Don Gorney	92 (6 state listed species)
Butterflies	Kirk Roth	29 (8 not previously report in county)
Fish	Robert Brodman	3 (common species)
Fungi	Stephen Russell	77 (earliest known report for 2 species of <i>Chantharellus</i> in Indiana)
Singing Insects	Carl Strang	12 (first report of <i>Anaxipha</i> n. sp. G in Indiana; range expansion of 1 species)
Snail-killing Flies	Bill Murphy	7 (1 county record)
Spiders	Brittany Davis-Swinford	20 (all common species)
Vascular Plants	Scott Namestnik	458 (150 potential county records; 8 state listed species)



To obtain a complete picture of the biodiversity to be found at Conner Prairie would require longterm seasonal surveys. Nevertheless, this two-day survey in June revealed the remarkable species richness and the inherent value of this historic site. Highlight species reported included the Spiny Softshell turtle, Sedge Wren, Henslow's Sparrow, Zabulon Skipper, Roesel's Katydid, Elegant Stinkhorn fungus, Pink Turtlehead, and False Hellebore. Of the 15 species of reptiles and amphibians reported, three species of reptiles and one species of amphibian were new species records for Hamilton County. Of the 458 taxa of plants, 150 represent potentially new Hamilton County records, and eight species are on the Indiana Endangered, Threatened, Rare, or Watch List. Eight butterfly species had not been recorded previously from Hamilton County. Likewise, four records of aquatic macroinvertebrates were new for Hamilton County. Steve Russell, the mushroom team leader, said that "Conner Prairie provided a fantastic species diversity for the time period." Among the 92 species of birds observed, two were on the endangered list and four were species of special concern. As expected, the plant team found species diversity to be relatively low in the restored prairies. However, they found incredible species richness in the woodlands, especially in the woods at the southern end of the property that slopes down to the White River. Data from the biodiversity survey will be shared with the Conner Prairie staff, and a brief report will be submitted to the *Proceedings of the IAS* for publication.

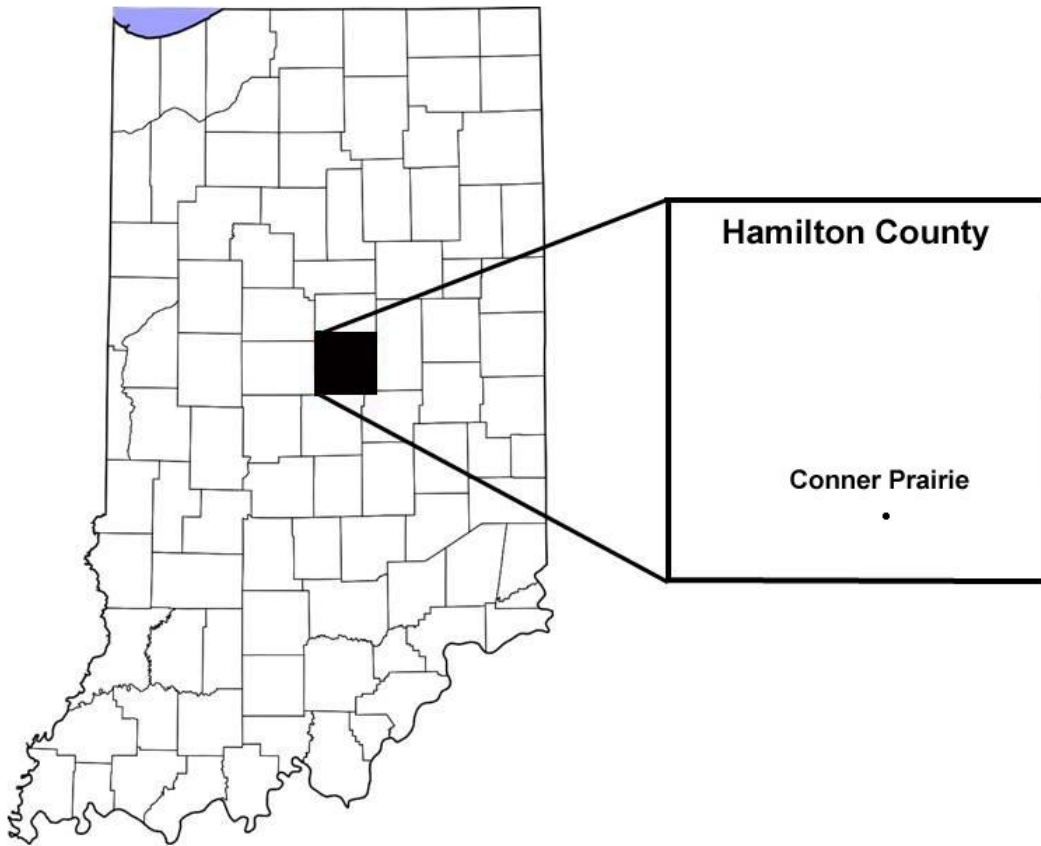
To learn more about Conner Prairie, the nation's finest outdoor living history museum, please visit the Conner Prairie Official Site at <http://www.connerprairie.org/>, Wikipedia at http://en.wikipedia.org/wiki/Conner_Prairie?oldid=0, and the Fishers, Indiana, website at <http://fishers-indiana.funcityfinder.com/conner-prairie/>.



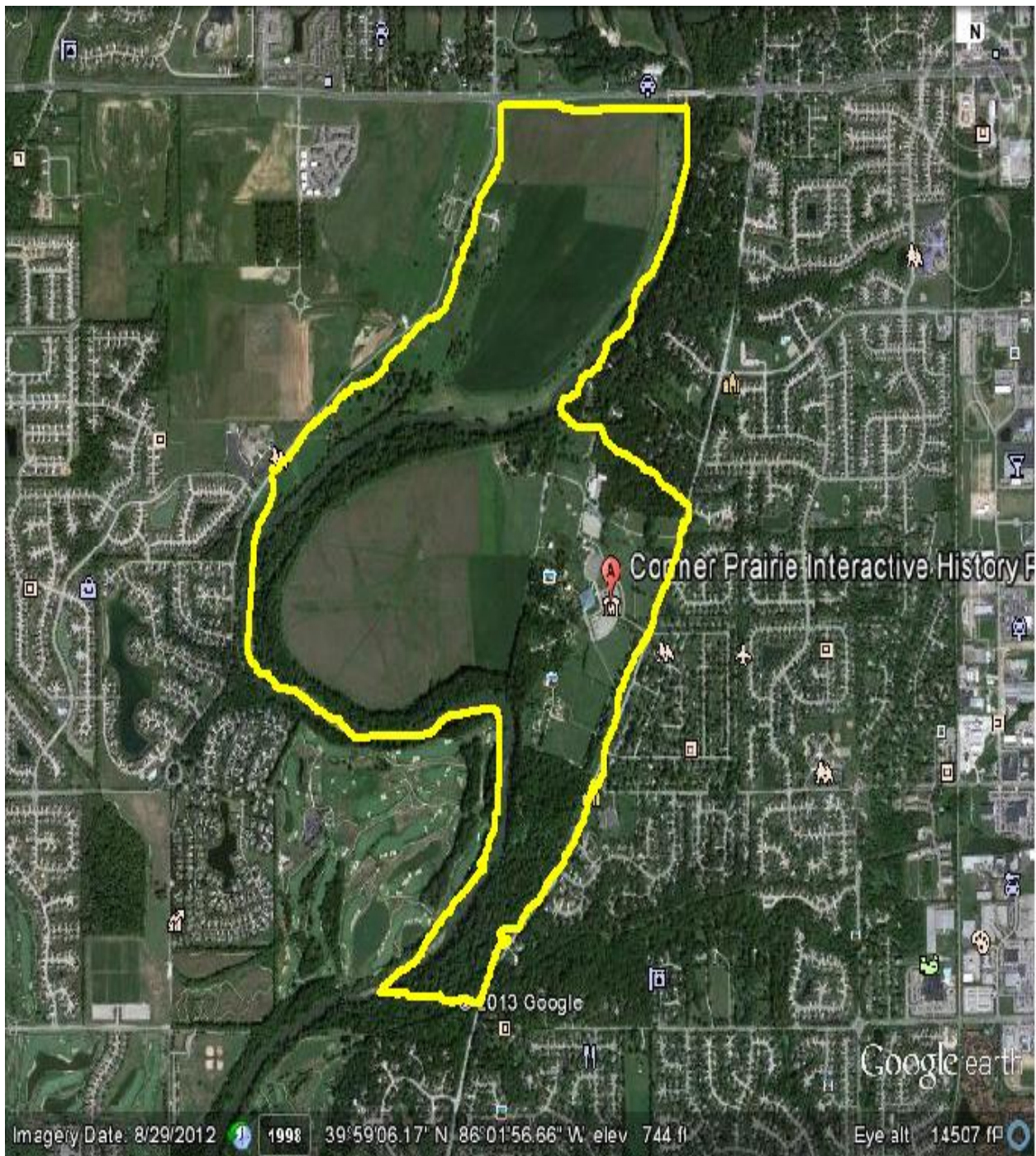
A view of one of the restored prairies at Conner Prairie. *Elymus canadensis*, Canada Wild Rye, is in the foreground.

Photo from the Hagerman Group

Map 1. Location of Hamilton County, Indiana, and of Conner Prairie within Hamilton County.



Map 2. Aerial photo of Conner Prairie illustrating boundaries.



Map 3. Location of buildings at Conner Prairie.





Brief History of Conner Prairie by Gail Brown, Program Developer

Conner Prairie traces its lineage to William Conner. Trader, interpreter, scout, community leader, and entrepreneur, Conner came to central Indiana during the winter of 1800-1801 and soon fixed himself upon the land, including 200 acres of treeless "prairie," now encompassed in the museum complex. He lived there until moving to Noblesville in 1837. During his 37-year tenure on the prairie he raised two families, built the two-story brick home that is one of Conner Prairie's focal points, and helped shepherd the transition of Indiana from wilderness to settled state.

The land passed out of Conner family hands in 1871. Over the next six decades it was repeatedly bought and sold, becoming just another fading property with an ill-remembered heritage. Fortunately for history and historical preservation, the land, house and their accompanying heritage were purchased in 1934 by a man of vision who understood their importance, Eli Lilly. It was to be the first step in the shaping of Conner Prairie.

Mindful of its significance and crumbling condition, industrialist and philanthropist of history Lilly began a careful restoration of the Conner house immediately upon assuming ownership. Consulting experts, hiring contractors and sponsoring research, Lilly restored and furnished the home to a vision of what it may have been like when William Conner lived there. Lilly's understanding of the house's historic context led him to surround it with outbuildings of the period. Over the next few years he added a still house, spring house and loom house. A log cabin, barn and a recreated trading post also added to the site comprised a nascent living history museum.

The land itself was not ignored. Carrying on another tradition, Lilly turned to agriculture and animal husbandry. Conner Prairie Farm became a showcase for the latest methods of raising crops and prize animals until it was phased out in the early 1970s. During this period, numerous barns, outbuildings, pastures and fields dotted the landscape. Included in Lilly's changes, was the additional of the levy surrounding William Conner's original treeless track of floodplain along the White River.

Lilly, a great promoter of education, knew the value of Conner Prairie as a tool to inform the public about their shared history. He enthusiastically opened the site to the public. History-minded groups, individuals and countless schoolchildren were given tours and saw their heritage brought to life. Over the years Lilly sought ways to broaden the educational possibilities of Conner Prairie, calling it "one of the most important historic monuments in the State of Indiana."

With this goal in mind, in 1964 Lilly transferred Conner Prairie to Earlham College, which continued to operate the farm and offer historic tours of the building and grounds. Conner Prairie explored various methods of interpreting the past to visitors. Regularly scheduled hours were established and added to the arranged visits. Special events like quilting bees and shows, craft demonstrations, and special holiday programs were added to the guided tours. Visitation increased from 2,800 in 1964 to over 28,000 in 1969.

As the ten-fold attendance increase indicated, there was great interest in the museum and its programs. By 1969 it was agreed that Conner Prairie was approaching a turning point. A decision had to be made about the site's future. Working groups comprised of Conner Prairie staff and the Conner Prairie Advisory Council concurred that expansion was needed to place the museum in the forefront of the burgeoning outdoor museum movement.

As a result, planning for the recreation of a typical early 19th-century Indiana village began. Research into the period was conducted and historic buildings from all over Indiana were moved to Conner Prairie. The village, now 1836 Prairietown, opened formally in March, 1974 with six major buildings. Like the small communities it represents, Prairietown has grown over time and now contains over twenty main structures, which serve as homes or workplaces for residents.

Conner Prairie's other 800 acres have also undergone change. The present, modern Welcome Center (which replaced the barns and farmhouses that previously housed museum facilities) opened in 1988 and was remodeled in 1999. To ensure the Conner House would remain for future generations, a painstaking re-restoration and refurnishing of the home occurred from 1991 to 1993. Several other experiences have opened in the past 15 years, including The Lenape Indian Camp opened in 2000, the 1859 Balloon Voyage in 2009, Civil War Journey in 2011 and new in 2013 Conner Prairie's Nature Walk.

Conner Prairie's continuing commitment to excellence has long been recognized, both by its peers (the museum has received multiple national awards from groups like the American Association for State and Local History and the American Association of Museums) and its approximately 350,000 visitors each year.

Table 1. List of Herpetofauna (15 species) and fish (3 species) observed during the Conner Prairie Biodiversity Survey, June 8-9, 2013.

Team Leader: Robert Brodman

Team Members: Megan Gramhofer, Jim Horton, Payton Kellenbuger, Rick Marrs, Anastasia Marsh, and members of the Hoosier Herp Society

<u>Species</u>	<u>Common Name</u>	<u>Count</u>
Reptiles		
<i>Plestiodon fasciatus</i>	Five-lined Skink*	18
<i>Thamnophis sirtalis</i>	Eastern Garter Snake	2
<i>Elaphe obsoleta obsoleta</i>	Black Rat Snake	4
<i>Apalone spinifera</i>	Spiny Softshell*	2
<i>Trachemys scripta elegans</i>	Red-eared Slider*	3
<i>Graptemys geographica</i>	Map Turtle	5
<i>Chrysemys picta</i>	Painted Turtle	2
<i>Chelydra serpentina</i>	Common Snapping Turtle	1
Amphibians		
<i>Plethodon cinereus</i>	Red-backed Salamander*	3
<i>Eurycea cirrigea</i>	Southern Two-lined Salamander	4
<i>Ambystoma tigrinum</i>	Tiger Salamander	1
<i>Acris blanchardi</i>	Blanchard's Cricket Frog (many more calling)	22
<i>Lithobates catesbeianus</i>	Bullfrog	4
<i>Lithobates clamitans</i>	Green Frog	56
<i>Anaxyrus americanus</i>	American Toad	23
TOTAL		150

* = new for Hamilton County

Collecting Methods & Effort

Amphibian and reptiles were surveyed by a combination of methods. Terrestrial and wetland habitats were sampled by visual searches and sample cover objects. Calling frogs were identified, and wetlands were sampled for larvae by use of dip nets. Turtles and larval amphibian were also sampled by use of turtle traps and minnow traps in wetlands, ponds, and the river. The complete effort totalled approximately 40 person-hours and 35 trap-days.

Voucher Specimens

Voucher specimens of *Plestiodon fasciatus* were deposited at the Indiana State Museum (INSM 71.2013.129). Voucher specimens for *Trachemys scripta elegans* (SJCZC R322) and *Plethodon cinereus* (SJCZC A350) were deposited in the Saint Joseph's College zoological collection in Rensselaer, Indiana. All other species were documented/vouchered by images, to be retained by Robert Brodman.

Summary Overview

The herp team found a total of 150 herps of 15 species, including 37 reptiles representing 8 species and 113 amphibians representing 7 species. *Acris blanchardi* is a species of special concern in Indiana; during the last two to three decades, it has declined greatly throughout the northern half of its geographic range. The species was common at every wetland and pond surveyed at Conner Prairie. *Plestiodon fasciatus* was very common in most open terrestrial habitats. Four species [*Plestiodon fasciatus*, *Apalone spinifera*, *Trachemys scripta elegans*, and *Plethodon cinereus*] represent new Hamilton County records. Minnow traps caught several species of fish, including Rock Bass (*Ambloplites rupestris*), Bluegill (*Lepomis macrochirus*), and Largemouth Bass (*Micropterus salmoides*).



Spiny Softshell. Photo by J. Horton.



Red-eared Slider. Photo by R. Brodman.



Map Turtle. Photo by R. Brodman.



Painted Turtle. Photo by R. Brodman.



Redbacked Salamander. Photo by R. Brodman.



Southern Two-lined Salamander.
Photo by R. Brodman.



Tiger Salamander larva. Photo by R. Brodman.



Blanchard's Cricket Frog. Photo by J. Horton.



Members of the herp team



Five-lined Skinks. Photo by J. Horton.

Table 2. List of beetle (Coleoptera) species (101 species) observed during the Conner Prairie Biodiversity Survey, June 8-9, 2013.

Team Leader: Jeffrey D. Holland

Team Members: Stephanie Hathaway, R. Michael Brattain, Robert Turnbow, Gareth Powell

<u>Species [Listed by Family]</u>	<u>Common Name</u>
ANTHICIDAE	
<i>Notoxus desertus</i> Casey	Ant-like Flower Beetle
<i>Notoxus murinipennis</i> LeConte	Ant-like Flower Beetle
<i>Notoxus</i> sp. Geoffroy	Ant-like Flower Beetle
ATTELABIDAE	
<i>Eugnamptus angustatus</i> (Herbst)	Leaf Rolling Weevil
BOSTRICHIDAE	
<i>Lichenophanes bicornis</i> (Weber)	Horned Powder-post Beetle
<i>Xylobiops basalaris</i> (Say)	Horned Powder-post Beetle
BRUCHIDAE (now subfam. In Chrysomelidae)	
<i>Gibbobruchus mimus</i> (Say)	Bean Weevil
BUPRESTIDAE	
<i>Agrilus egenus</i> (Say)	Jewel Beetle
<i>Agrilus lecontei lecontei</i> Saunders	Jewel Beetle
<i>Anthaxia quercata</i> Fabr.	Jewel Beetle
<i>Anthaxia</i> sp. Eschscholtz	Jewel Beetle
<i>Ptosima gibbicollis</i> (Say)	Jewel Beetle
CANTHARIDAE	
<i>Chauliognathus marginatus</i> Fabr.	Soldier Beetle
<i>Malthodes</i> sp. Kiesenwetter	Soldier Beetle
<i>Podabrus rugulosus</i> LeConte	Soldier Beetle
<i>Podabrus tomentosus</i> Say	Soldier Beetle
<i>Tryptherus latipennis</i> (Germar)	Soldier Beetle
CARABIDAE	
<i>Acupalpus pauperculus</i> Dejean	Ground Beetle
<i>Amphasia sericea</i> (Harris)	Ground Beetle
<i>Badister neopulchellus</i> Lindroth	Ground Beetle
<i>Cicindela sexguttata</i> Fabr.	Ground Beetle
<i>Lebia analis</i> Dejean	Ground Beetle
<i>Lebia viridis</i> Say	Ground Beetle
<i>Paraclivina bipustulata</i> (Fabr.)	Ground Beetle
<i>Pterostichus</i> (Abacidus) permundus (Say)	Ground Beetle
<i>Scarites</i> sp. Fabr.	Ground Beetle
<i>Schizogenius lineolatus</i> (Say)	Ground Beetle
<i>Selenophorus opalinus</i> (LeConte)	Ground Beetle
<i>Stenolophus comma</i> Fabr.	Ground Beetle

Stenolophus lecontei Chaudoir
Stenolophus ochropezus (Say)
Trichotichinus dichrous (Dejean)

Ground Beetle
Ground Beetle
Ground Beetle

CERAMBYCIDAE

Charisalia americana (Haldeman)
Dorcaschema alternata (Say)
Molorchus bimaculatus bimaculatus Say
Phaea monostigma (Haldeman)
Saperda discoidea Fabr.
Stenocorus cinnamopterus (Randall)
Sternidius alpha (Say)
Strangalia luteicornis (Fabr.)

Longicorn Beetle
Longicorn Beetle
Longicorn Beetle
Longicorn Beetle
Longicorn Beetle
Longicorn Beetle
Longicorn Beetle
Longicorn Beetle

CHRYSOMELIDAE

Acalymma vittatum (Fabr.)
Ceratoma trifurcata (Forster)
Charidotella sexpunctata bicolor (Fabr.)
Coleothorpa dominicana (Fabr.)
Diabrotica undecimpunctata Mann.
Exema sp. Lacordaire
Pachyonychus paradoxus Melsheimer
Phyllotreta striolata (Fabr.)
Systema hudsonias (Forster)
Tymnes tricolor (Fabr.)

Leaf Beetle
Leaf Beetle
Leaf Beetle
Leaf Beetle
Leaf Beetle
Leaf Beetle
Leaf Beetle
Leaf Beetle
Leaf Beetle
Leaf Beetle

CLERIDAE

Isohydnocera curtipennis (Newman)
Phyllobaenus sp. Dejean

Checkered Beetle
Checkered Beetle

COCCINELLIDAE

Brachiacantha decempustulata (Melsh.)
Brachiacantha sp. Chevrolat in Dejean
Chilocorus stigma Say
Coccinella septempunctata Linn.
Coleomegilla maculata lengi Timberlake
Cycloneda munda (Say)
Harmonia axyridis (Pallas)
Hippodamia variegata (Goeze)
Hyperaspis signata (Olivier)

Ladybird Beetle
Ladybird Beetle
Ladybird Beetle
Ladybird Beetle
Ladybird Beetle
Ladybird Beetle
Ladybird Beetle
Ladybird Beetle
Ladybird Beetle
Ladybird Beetle

CURCULIONIDAE

Anthonomus quadrigibbus (Say)
Calomycterus setarius Roelofs
Ceutorhynchus erysimi (Fabr.)
Dryocoetes granicollis (LeConte)
Epicaerus imbricatus (Say)
Gymnetron tetrum (Fabr.)
Orchestes alni (Linn.)
Orchestes pallidicornis Say
Rhinocyllus conicus (Froelich)
Rhyssomatus lineaticollis (Say)
Tyloderma foveolatum (Say)

Weevil
Weevil
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Weevil

<i>Xyleborus celsus</i> Erichson	Weevil
DERMESTIDAE <i>Anthrenus</i> sp. Müller	Carpet Beetle
ELATERIDAE <i>Aeolus mellillus</i> (Say) <i>Lacon</i> sp. <i>Melanotus</i> sp.	Click Beetle Click Beetle Click Beetle
HETEROCERIDAE <i>Heterocerus</i> sp. Fabr.	Variigated Mud-loving Beetle
HISTERIDAE <i>Hololepta aequalis</i> Say <i>Platylomalus aequalis</i> (Say) <i>Platysoma lecontei</i> Marseul	Clown Beetle Clown Beetle Clown Beetle
HYDROPHILIDAE <i>Anacaena limbata</i> (Fabr.) <i>Cercyon praetextatus</i> (Say) <i>Sphaeridium scarabeoides</i> L.	Water Scavenger Beetle Water Scavenger Beetle Water Scavenger Beetle
NITIDULIDAE <i>Amphicrossus cilliatus</i> (Olivier) <i>Cryptarcha concinna</i> Melsh. <i>Epuraea</i> sp. Erichson <i>Prometopia sexmaculata</i> (Say)	Sap Beetle Sap Beetle Sap Beetle Sap Beetle
PTINIDAE (formerly Anobiidae) <i>Petalium</i> sp. LeConte	Death-watch Beetle
PYROCHROIDAE <i>Pedilus</i> sp.	Fire-colored Beetle
SCARABEAIDAE <i>Aphodius haemorrhoidalis</i> Gordon <i>Aphodius pseudolivinus</i> Balthasar <i>Phyllophaga</i> sp. Harris <i>Serica</i> sp. MacLeay	Scarab Beetle Scarab Beetle Scarab Beetle Scarab Beetle
SCIRTIDAE <i>Scirtes orbicularis</i> (Fabr.)	Marsh Beetle
SCRAPTIIDAE <i>Pentaria trifasciata</i> (Melsheimer)	False Flower Beetle
TENEBRIONIDAE <i>Alobates pennsylvanica</i> (DeG.) <i>Platydemia ruficornis</i> (Sturm) <i>Tenebrio molitor</i> L.	Darkling Beetle Darkling Beetle Darkling Beetle

TROGIDAE*Trox* sp. Fabr.

Hide Beetle

TROGOSSITIDAE*Tenebroides* sp.

Bark-gnawing Beetle

Collecting Methods & Effort

Many of the beetles were collected at lights set up to attract beetles at night into the open areas between different habitats. These lights ran from approximately 9 PM until 2 AM and consisted of two sets of two UV lights, one 400w mercury vapor light, and 2 1000w metal halide lights. Beetles were also collected by hand and by sweeping and beating vegetation. The complete effort totalled approximately 40 person-hours.

Voucher Specimens

Voucher specimens of most species will be deposited in the Purdue Entomological Research Collection (PERC) at Purdue University. Some species not represented by vouchers at the PERC were retained in the personal collections of R. Michael Brattain and Robert Turnbow.

Summary Overview

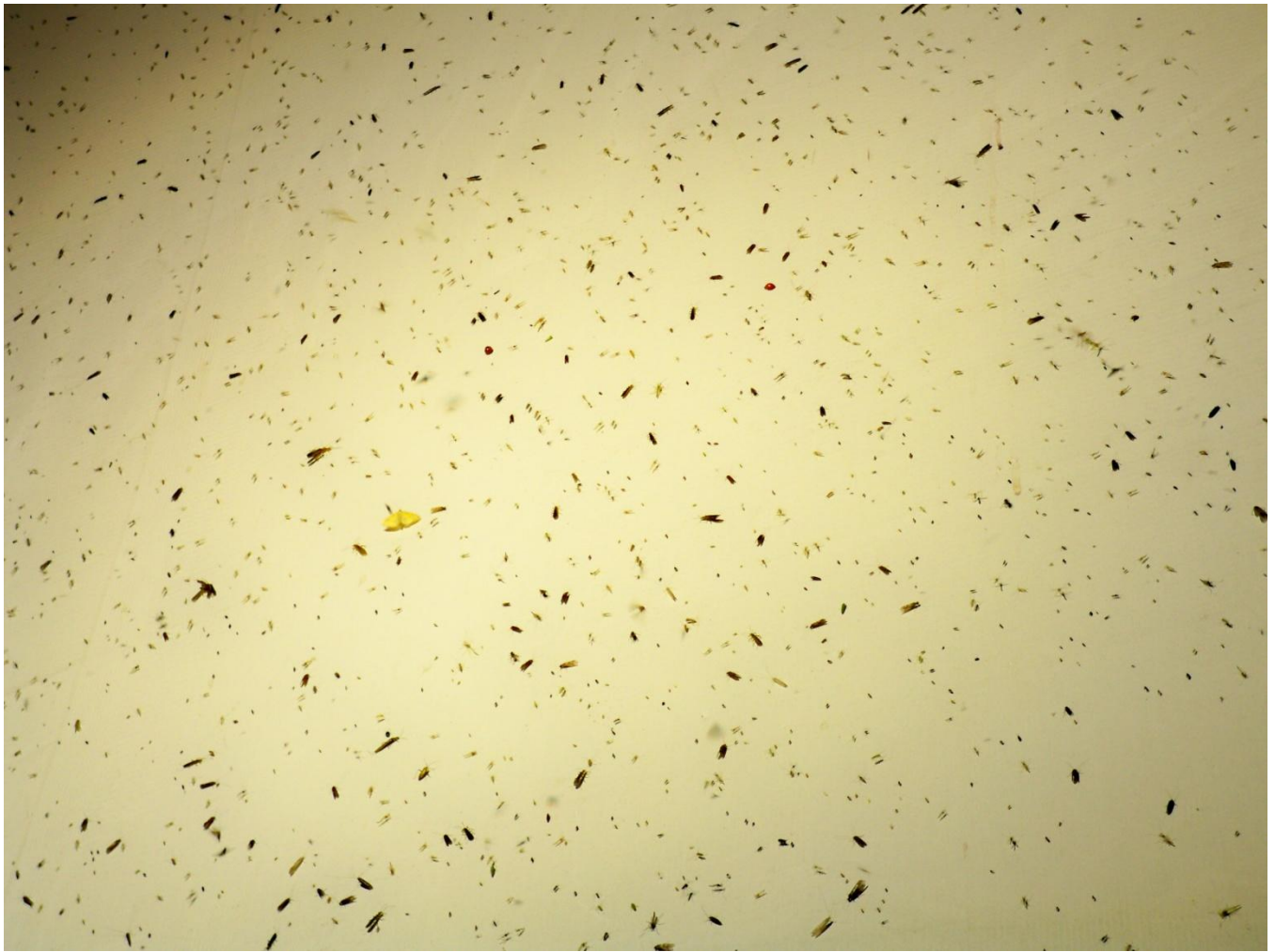
We found 101 species of beetles in 26 families. The level of diversity was slightly lower than expected for this level of collecting effort, but that was to be expected given the highly modified landscape surrounding Conner Prairie. However, we undoubtedly only captured a small proportion of the beetle species present. The most interesting occurrence during the survey was the spectacular density of Tricoptera (caddisflies) that were attracted to a metal halide light placed behind the large bandshell. This 1000w light was reflected from the white surface and likely attracted caddisflies from a very large area, resulting in an extremely dense insect cover across most of the band shell cover.



**The back of the bandshell lit up by a 1000w metal halide light to attract insects.
Photo by Jeff Holland.**



Insects attracted to a small UV light. Photo by Jeff Holland.



Close up of insects on the illuminated bandshell. Photo by Jeff Holland.

Table 3. List of bird species (92 species) observed during the Conner Prairie Biodiversity Survey, June 8-9, 2013.

Team Leader: Don Gorney

Team Members: Jennifer Boyce, Krysta Eggleston, Scott Enochs, Greg Osland, Tim Rice, Aidan Rominger, Kirk Roth, Dave Shafer, Bert Thomas, Marty Williams

<u>Family</u>	<u>Scientific Name</u>	<u>Common Name</u>	<u>Number</u>
Anatidae	<i>Branta canadensis</i>	Canada Goose	4
	<i>Aix sponsa</i>	Wood Duck	5
	<i>Anas platyrhynchos</i>	Mallard	4
Phalacrocoracidae	<i>Phalacrocorax auritus</i>	Double-crested Cormorant	1
Ardeidae	<i>Ardea herodias</i>	Great Blue Heron	9
Cathartidae	<i>Cathartes aura</i>	Turkey Vulture	5
Accipitridae	<i>Accipiter cooperii</i>	Cooper's Hawk	3
	<i>Haliaeetus leucocephalus</i>	Bald Eagle	2
	<i>Buteo lineatus</i>	Red-shouldered Hawk	1
	<i>Buteo jamaicensis</i>	Red-tailed Hawk	4
Charadriidae	<i>Charadrius semipalmatus</i>	Semipalmated Plover	1
	<i>Charadrius vociferus</i>	Killdeer	4
Scolopacidae	<i>Actitis macularius</i>	Spotted Sandpiper	1
	<i>Gallinago delicata</i>	Wilson's Snipe	2
	<i>Scolopax minor</i>	American Woodcock	1
Columbidae	<i>Columba livia</i>	Rock Pigeon	17
	<i>Zenaida macroura</i>	Mourning Dove	32
Strigidae	<i>Megascops asio</i>	Eastern Screech-Owl	1
	<i>Bubo virginianus</i>	Great Horned Owl	2
Caprimulgidae	<i>Chordeiles minor</i>	Common Nighthawk	1
Apodidae	<i>Chaetura pelagica</i>	Chimney Swift	15
Trochilidae	<i>Archilochus colubris</i>	Ruby-throated Hummingbird	9
Alcedinidae	<i>Megaceryle alcyon</i>	Belted Kingfisher	2
Picidae	<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	2
	<i>Melanerpes carolinus</i>	Red-bellied Woodpecker	24
	<i>Picoides pubescens</i>	Downy Woodpecker	25
	<i>Picoides villosus</i>	Hairy Woodpecker	1
	<i>Colaptes auratus</i>	Northern Flicker	9
	<i>Dryocopus pileatus</i>	Pileated Woodpecker	4

Falconidae	<i>Falco sparverius</i>	American Kestrel	1
Tyrannidae	<i>Contopus virens</i>	Eastern Wood-Pewee	23
	<i>Empidonax vireescens</i>	Acadian Flycatcher	8
	<i>Empidonax traillii</i>	Willow Flycatcher	5
	<i>Sayornis phoebe</i>	Eastern Phoebe	4
	<i>Myiarchus crinitus</i>	Great Crested Flycatcher	8
	<i>Tyrannus tyrannus</i>	Eastern Kingbird	2
Vireonidae	<i>Vireo griseus</i>	White-eyed Vireo	3
	<i>Vireo flavifrons</i>	Yellow-throated Vireo	2
	<i>Vireo gilvus</i>	Warbling Vireo	21
	<i>Vireo olivaceus</i>	Red-eyed Vireo	8
Corvidae	<i>Cyanocitta cristata</i>	Blue Jay	31
Alaudidae	<i>Eremophila alpestris</i>	Horned Lark	4
Hirundinidae	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	9
	<i>Progne subis</i>	Purple Martin	4
	<i>Tachycineta bicolor</i>	Tree Swallow	5
	<i>Riparia riparia</i>	Bank Swallow	3
	<i>Hirundo rustica</i>	Barn Swallow	12
	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	8
Paridae	<i>Poecile carolinensis</i>	Carolina Chickadee	41
	<i>Baeolophus bicolor</i>	Tufted Titmouse	22
Sittidae	<i>Sitta carolinensis</i>	White-breasted Nuthatch	9
Troglodytidae	<i>Troglodytes aedon</i>	House Wren	16
	<i>Cistothorus platensis</i>	Sedge Wren	2
	<i>Thryothorus ludovicianus</i>	Carolina Wren	15
Poliptilidae	<i>Poliptila caerulea</i>	Blue-gray Gnatcatcher	24
Turdidae	<i>Sialia sialis</i>	Eastern Bluebird	8
	<i>Hylocichla mustelina</i>	Wood Thrush	4
	<i>Turdus migratorius</i>	American Robin	105
Mimidae	<i>Dumetella carolinensis</i>	Gray Catbird	9
	<i>Mimus polyglottos</i>	Northern Mockingbird	5
	<i>Toxostoma rufum</i>	Brown Thrasher	4
Sturnidae	<i>Sturnus vulgaris</i>	European Starling	202
Bombycillidae	<i>Bombycilla cedrorum</i>	Cedar Waxwing	31
Parulidae	<i>Seiurus aurocapilla</i>	Ovenbird	1
	<i>Parkesia motacilla</i>	Louisiana Waterthrush	1
	<i>Geothlypis trichas</i>	Common Yellowthroat	37
	<i>Setophaga citrina</i>	Hooded Warbler	1

	<i>Setophaga americana</i>	Northern Parula	8
	<i>Setophaga petechia</i>	Yellow Warbler	7
	<i>Setophaga dominica</i>	Yellow-throated Warbler	11
Emberizidae	<i>Pipilo erythrophthalmus</i>	Eastern Towhee	4
	<i>Spizella passerina</i>	Chipping Sparrow	8
	<i>Spizella pusilla</i>	Field Sparrow	32
	<i>Chondestes grammacus</i>	Lark Sparrow	1
	<i>Passerculus sandwichensis</i>	Savannah Sparrow	5
	<i>Ammodramus savannarum</i>	Grasshopper Sparrow	11
	<i>Ammodramus henslowii</i>	Henslow's Sparrow	8
	<i>Melospiza melodia</i>	Song Sparrow	50
Cardinalidae	<i>Piranga rubra</i>	Summer Tanager	2
	<i>Piranga olivacea</i>	Scarlet Tanager	5
	<i>Cardinalis cardinalis</i>	Northern Cardinal	49
	<i>Passerina cyanea</i>	Indigo Bunting	51
	<i>Spiza americana</i>	Dickcissel	7
Icteridae	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	129
	<i>Sturnella magna</i>	Eastern Meadowlark	8
	<i>Quiscalus quiscula</i>	Common Grackle	17
	<i>Molothrus ater</i>	Brown-headed Cowbird	23
	<i>Icterus spurius</i>	Orchard Oriole	7
	<i>Icterus galbula</i>	Baltimore Oriole	18
Fringillidae	<i>Haemorhous mexicanus</i>	House Finch	14
	<i>Spinus tristis</i>	American Goldfinch	50
Passeridae	<i>Passer domesticus</i>	House Sparrow	46
Total number of individuals at Conner Prairie			1460
Total number of species			92

Observed outside property boundaries

Icteridae	<i>Dolichonyx oryzivorus</i>	Bobolink	2
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Summary Overview

The Bird Team had sufficient observers to cover all areas of the Conner Prairie property. The early June date for the Biodiversity Survey was ideal for detecting birds because it coincided with the period of peak breeding activity. Birds were identified by sight or by song or call note. Consequently, the survey was not limited to territorial or singing males, but this demography constituted the majority of records. In an attempt to capture as much baseline data as possible in this two-day survey, team members counted individual birds and noted any specific breeding activity by species. Bird diversity was found to be high, with a total of 92 species observed on or flying over the property. Approximately 90 percent of the species were presumed to be nesting on Conner

Prairie property, with the remainder representing late migrants or birds that likely utilize the site for foraging only. Both forest and prairie habitats were important contributors to species diversity. Prairie areas produced most of the expected species, including Sedge Wren and Henslow's Sparrow, both listed as State Endangered. Four additional non-prairie species found on the survey are listed as State Special Concern. One prairie species, Bobolink, was observed outside of property boundaries by only a few hundred meters.

For additional information reported by the Bird Team, see the Excel File named “Conner Prairie 2013 BioBlitz Bird Data” on the Indiana Academy of Science Webpage [under Events, then Bioblitz Archive]. The IAS webpage can be reached at <http://www.indianaacademyofscience.org>.



Lark Sparrow. Photo by Aidan Rominger.

Table 4. List of butterfly species (29 taxa, 27 species) observed during the Conner Prairie Biodiversity Survey, June 8-9, 2013.

Team Leader: Kirk Roth

Team Members: Don Gorney

<u>Species</u>	<u>Common Name</u>	<u>Count</u>
<i>Epargyreus clarus</i>	Silver-spotted Skipper	3
<i>Pholisora catullus</i>	Common Sootywing	1
<i>Ancyloxypha numitor</i>	Least Skipper	1
<i>Polites peckius</i>	Peck's Skipper	2
<i>Polites themistocles</i>	Tawny-edged Skipper	2
<i>Polites origenes</i>	Crossline Skipper	2
<i>Poanes zabulon</i>	Zabulon Skipper	5
<i>Anatrytone logan</i>	Delaware Skipper	1
<i>Euphyes vestris</i>	Dun Skipper	1
<i>Papilio polyxenes</i>	Black Swallowtail	15
<i>Papilio troilus</i>	Spicebush Swallowtail	5
<i>Colias philodice</i>	Clouded Sulphur	5
<i>Colias eurytheme</i>	Orange Sulphur	10
<i>Colias sp.</i>	Sulphur species	1
<i>Pieris rapae</i>	Cabbage White	170
<i>Cupido comyntas</i>	Eastern Tailed-blue	11
<i>Celastrina neglecta</i>	Summer Azure	32
<i>Danaus plexippus</i>	Monarch	8
<i>Liminetis arthemis</i>	Red-spotted Purple	2
<i>Liminetis archippus</i>	Viceroy	1
<i>Asterocampa celtis</i>	Hackberry Emperor	2
<i>Asterocampa clyton</i>	Tawny Emperor	1
<i>Vanessa atalanta</i>	Red Admiral	5
<i>Nymphalis antiopa</i>	Mourning Cloak	1
<i>Polygonia iterrogationis</i>	Question Mark	1
<i>Polygonia comma</i>	Eastern Comma	5
<i>Polygonia sp.</i>	Anglewing species	1
<i>Phyciodes tharos</i>	Pearl Crescent	2
<i>Lethe anhedon</i>	Northern Pearly-eye	1
TOTAL		279

Summary Overview

A total of 295 butterflies of 27 species were detected during the Bioblitz. The most abundant species was the Cabbage White (*Pieris rapae*), with 170 individuals seen. This species may be expected to be common in Conner Prairie as a result of the abundance of mustard species, which are a common host plant. Additionally, farmers in the Pioneer Village noted that they were familiar with the “green worms” on their cabbage, which are very likely the larvae of this species.

Other butterfly species were observed to be benefitting from the Pioneer Village plantings. The flower gardens were frequented by several skipper species, including Silver-spotted (*Epagyreus clarus*), Zabulon (*Poanes zabulon*), and Peck’s Skippers (*Polites peckius*). A second-instar Black Swallowtail larva was noted on fennel (*Foeniculum vulgare*) in one of the gardens. Several gardeners indicated that the larvae occur there every year that fennel is planted.

Butterfly numbers were low in the prairie areas. The few major nectar sources included patches of thistle (*Cirsium* sp.) or scattered Red Clover (*Trifolium pratense*). Few classic sources of prairie nectar, such as milkweeds (*Asclepias* sp.), Mountain-mint (*Pycnanthemum* sp.), Wild Bergamot (*Monarda fistulosa*), Purple Coneflower (*Echinacea purpurea*), and others were noted to be in bloom. Eastern Tiger Swallowtail (*Papilio glaucus*) and Great Spangled Fritillary (*Speyeria cybele*) are normally common and conspicuous butterflies; they were notably absent from the count, possibly a result of the scarcity of favored nectar sources such as those above. Several woodland species were present in small numbers. The lone Northern Pearly-eye (*Lethe anthedon*) and Mourning Cloak (*Nymphalis antiopa*) were found in the south forested area. Most Eastern Comma (*Polygonia comma*) and Zabulon Skipper sightings were in the wooded White River floodplain. Summer Azures (*Celastrina neglecta*) were reliably found nectaring at blooming dogwood (*Cornus* sp.) and scattered at forest edges. Most skippers were found by chance encounters in grassy areas rather than at nectar sources. Eventhough only a few individuals of skippers were observed, they represented nine different species.

The observations at the Conner Prairie Bioblitz include sightings of some species not listed for Hamilton County in Shull’s (1987) or Belth’s (2013) comprehensive books on the butterflies of Indiana. This lack probably resulted from a scarcity of sampling in Hamilton County, as many of these species are not uncommon in the state but are small or otherwise inconspicuous. The species not listed in Belth or Shull are Northern Pearly-eye (*Lethe anthedon*), Common Sootywing (*Pholisora catullus*), Zabulon Skipper (*Poanes zabulon*), Least Skipper (*Ancyloxypha numitor*), Delaware Skipper (*Anatrytone logan*), Dun Skipper (*Euphyes vestris*), Tawny-edged Skipper (*Polites themistocles*), and Crossline Skipper (*Polites origenes*). Belth included each of these species in maps of nearby Marion County, which is less than 6 km south of Conner Prairie.

References

Belth, Jeffrey E., 2013. *Butterflies of Indiana – A Field Guide*. Bloomington and Indianapolis, IN: Indiana University Press, 323 pp.

Shull, Ernest M., 1987. *The Butterflies of Indiana*. Indianapolis, IN: Indiana Academy of Science, 262 pp.



Silver-spotted Skipper (*Epargyreus clarus*). Photo taken by Kirk Roth.



**First Hamilton County record of Zabulon Skipper (*Poanes zabulon*), Conner Prairie.
Photo taken by Kirk Roth.**



First Hamilton County record of Common Sootywing (*Pholisora catullus*). Photo taken by Kirk Roth.

Table 5. List of fungal/mushroom species (77 taxa, 65 species) observed during the Conner Prairie Biodiversity Survey, June 8-9, 2013.

Team Leader: Stephen Russell
 Team Members: Maggie Sickler and Don Ruch

<i>Agrocybe molesta</i> (Lasch) Singer	<i>Megacollybia rodmanii</i> form <i>murina</i> Petersen, Hughes & Lickey
<i>Arthuriomyces peckianus</i> (Howe) Cummins & Y. Hirats.	<i>Megacollybia rodmanii</i> form <i>rodmanii</i> Petersen, Hughes & Lickey
<i>Artomyces pyxidatus</i> (Pers.) Julich	<i>Microstoma floccosum</i> (Schwein.) Raitv.
<i>Bjerkandera adusta</i> (Willd.) P. Karst.	<i>Mutinus elegans</i> (Mont.) E.Fisch.
<i>Cantharellus "cibarius"</i> Fr.	<i>Mycena galericulata</i> (Scop.: Fr.) S. F. Gray
<i>Cantharellus minor</i> Pk.	<i>Mycena leaiana</i> (Berk.) Sacc.
<i>Coltricia cinnamomea</i> (Jacq.) Murr.	<i>Panaeolus foensecii</i> (Pers.) Maire
<i>Conocybe lactea</i> (J.E. Lange) Métrod	<i>Panus rudis</i> Fr.
<i>Coprinopsis atramentaria</i> (Bull.: Fr.) Redhead, Vilgalys & Moncalvo	<i>Phellinus gilvus</i> (Schwein.) Pat.
<i>Coprinopsis picacea</i> (Bull. :Fr.) Redhead. Vilgalys & Moncalvo	<i>Pleurotus pulmonarius</i> (Fr.) Quéf.
<i>Copinopsis variegata</i> (Pk.) Redhead, Vilgalys & Moncalvo	<i>Pluteus cervinus</i> (Schaeff.) Kumm.
<i>Crepidotus applanatus</i> (Pers.) P. Kumm.	<i>Polyporus alveolaris</i> (DC.) Bondartsev & Singer
<i>Crepidotus crocophyllus</i> (Berkeley) Saccardo	<i>Polyporus arcularius</i> (Batsch) Fr.
<i>Crepidotus mollis</i> (Fr.) Staude	<i>Polyporus badius</i> (Pers.) Schwein.
<i>Ductifera pululahuana</i> (Pat.) Donk	<i>Polyporus leptcephalus</i> (Jacq.) Fr.
<i>Fuligo septica</i> (L.) F.H. Wigg.	<i>Polyporus squamosus</i> (Huds.) Fr.
<i>Ganoderma applanatum</i> (Pers.) Pat.	<i>Psathyrella candolleana</i> (Fr.) Maire
<i>Galiella rufa</i> (Schwein.) Nannf. & Korf	<i>Puccinia podophylli</i> Schwein.
<i>Hohenbuehelia petaloides</i> (Bull.) Schulz.	<i>Rhizomarasmus pyrrocephalus</i> (Berk.) Petersen
<i>Hygrocybe irrigate</i> (Pers.) Bon	<i>Ricknella fibula</i> (Bull.) Raith.
<i>Hygrocybe psittacina</i> (A.H. Sm. & Hesler) Boertm.	<i>Russula variata</i> Banning
<i>Hymenopellis megalospora</i> (Clem.) Petersen	<i>Sarcocypha occidentalis</i> (Schwein.) Sacc.
<i>Irpex lacteus</i> (Fr.:Fr.) Fr.	<i>Schizophyllum commune</i> Fr.
<i>Kretzschmaria deusta</i> (Hoffm.) P.M.D. Martin	<i>Scutellinia scutellata</i> (L.) Lamb.
<i>Lacrymaria rugocephala</i> (G.F.Atk.) A.H.Sm.	<i>Stemonitis axifera</i> (Bull.) T. Macbr.
<i>Lycogala epidendrum</i> (L.) Fr.	<i>Stereum complicatum</i> (Fr.) Fr.
<i>Marasmius rotula</i> (Scop.) Fr.	<i>Stereum ostrea</i> (Blume & Nees) Fr.

Trametes elegans (Spreng.:Fr.) Fr.
Trametes hirsuta (Wulfen) Pilát
Trametes versicolor (L.) Lloyd
Tremella mesenterica Retz.
Tremellodendron pallidum (Schwein.) Burt
Trichaptum biforme (Fr.) Ryvardeen
Tubifera ferruginosa (Batsch.) Gmel.
Xerocomellus chrysenteron (Bull.) Šutara
Xeromphalina tenuipes (Schwein.) A.H. Sm.,
Xylaria hypoxylon (L.: Fr.) Grev.
Xylobolus frustulatus (Pers.:Fr.) Boidin

Others:
Agrocybe sp. Foyod.
Clitocybe sp. (Fr.) Staude
Coprinus sp. Pers.
Cortinarius sp. (Pers.) Gray
Entoloma sp. (Fr.) P. Kumm.
Hygrophorous sp. Fr.
Lactarius sp. Pers.
Pholiota sp. (Fr.) P.Kumm.
Panaeolus sp. (Fr.) Quél.
Pluteus sp. Fr.
Russula spp. Pers.
Xylaria sp. Hill ex Schrank

Summary Overview

Early June is nearing the end of a lull in the fungal world. The spring mushrooms are coming to an end, but the summer mushrooms have yet to fruit in abundance. That being said, Conner Prairie provided a fantastic species diversity for the time period. Two collectors spent a total of about 6 hours on the property collecting the listed species. The majority of the species we encountered can be found commonly throughout much of the state. No specific genera were over-represented in numbers on the grounds. Of special note were two species of Chanterelles – *Cantharellus “cibarius”* and *C. minor*. All varieties of Chanterelles lack well defined, blade-like gills, which is one of the key defining features of the genus. While both of these edible species are fairly common, the dates on which they were observed during the Bioblitz were the earliest known by the author for Indiana. They most commonly begin presenting in mid to late July.





(Left) *Mutinus elegans*, the Elegant Stinkhorn.
Source unknown.

(Below) *Trametes versicolor*, Turkey Tail.
Source unknown.



Table 6. List of aquatic macroinvertebrates (23 taxa) observed during the Conner Prairie Biodiversity Survey, June 8-9, 2013.

Team Leader: Paul McMurray

Team Members: None

<u>Order</u>	<u>Family</u>	<u>Species</u>	<u>Common Name</u>	<u>Abundance</u>
<u>Class Insecta</u>				
Coleoptera	Dytiscidae	<i>Neoporus</i> sp.	Predaceous Diving Beetles	5 larva
		<i>Neoporus clypealis</i>	Predaceous Diving Beetles	1 adult
Ephemeroptera	Gyrinidae	<i>Dineutus</i> sp.	Whirligig Beetle	1 larva
	Caenidae	<i>Caenis latipennis</i>	Square-gilled Mayflies	2 larva
Hemiptera	Gerridae		Water Stiders	4 immature
Odonata	Calopterygidae	<i>Calopteryx maculata</i>	Ebony Jewelwing	1 ♂ (sight)
	Coenagrionidae	<i>Argia apicalis</i>	Blue-fronted Dancer	1 ♂
		<i>Argia moesta</i> *	Powdered Dancer	2 ♂, 2 ♀
		<i>Argia tibialis</i> *	Blue-tipped Dancer	3 ♂ 2 ♀
		<i>Enallagma</i> sp.	Bluets	6 larva
		<i>Enallagma basidens</i>	Double-striped Bluet	3 larva
		<i>Enallagma exsulans</i>	Stream Bluet	2 ♂
		<i>Ischnura</i> sp.	Forktails	1 larva
		<i>Ischnura posita</i> *	Fragile Forktail	3 ♂
		<i>Ischnura verticalis</i>	Eastern Forktail	1 ♂, 1 ♀
		Libellulidae	<i>Libellula incesta</i> *	Slaty Skimmer
	<i>Pachydiplax longipennis</i>		Blue Dasher	1 ♂, 1 ♀
	<i>Perithemis tenera</i>		Eastern Amberwing	1 ♂(sight)
	<i>Plathemis lydia</i>		Common Whitetail	1 ♂ (sight)
	<i>Sympetrum</i> sp.		Meadowhawks	1 larva
Diptera	Ceratopogonidae	<i>Bezzia/Palpomyia</i> sp.	Biting Midge Flies	2 larva
	Chironomidae		Midge Flies	1 pupa
		<i>Chironomus</i> sp.	Midge Flies	4 larva
		<i>Endochironomus</i> sp.	Midge Flies	1 larva
		<i>Cricotopus sylvestris</i> grp.	Midge Flies	2 larva
		<i>Psectrocladius</i> sp.	Midge Flies	2 larva
		<i>Ablabesmyia</i> sp.	Midge Flies	3 larva
		<i>Clinotanypus</i> sp.	Midge Flies	1 larva
		<i>Procladius</i> sp.	Midge Flies	1 larva

	<u>Class Amphipoda</u>		
Hyalellidae	<i>Hyalella</i> sp.	Scuds	3
	<u>Class Isopoda</u>		
Asellidae	<i>Caeciodotea</i> sp.	Pill Bugs	11
	<u>Class Gastropoda</u>		
Lymnaeidae	<i>Fossaria</i> sp.	Pond Snails	1
Physidae		Pouch Snails	2 immature
	<u>Class Clitellata</u>		
Naididae		Aquatic Worms	2
TOTAL			80

NOTE: Collected specimens were identified to lowest practical taxon by use of standard (Merritt et al. 2008, Thorp & Covich 2001) and regional (Curry 2001, Glotzhober and McShaffrey 2002) texts.

Methods

Aquatic Macroinvertebrates: Specimens collected with a D-frame aquatic dipnet from all available aquatic habitats.

Adult Odonates: Specimens collected with a large aerial net from shoreline areas around the pond.

Total time spent sampling both aquatic macroinvertebrates and odonates = 3 hours on Saturday, June 8th.

Summary Overview

Aquatic macroinvertebrates and adult Odonata (dragonflies and damselflies) were collected at a large pond located 0.6 km northwest of the Conner Prairie welcome center (39.98909 N, -86.032369 W). A D-frame aquatic dipnet with 500 µm mesh was used to sample aquatic macroinvertebrates from different aquatic habitats around the margin of the pond (i.e. emergent vegetation, sand, logs). Collected specimens were identified to lowest practical taxon by use of standard texts (Merritt et al. 2008, Thorp and Covich 2001). A total of 23 taxa were identified, representing five classes of invertebrates, 13 families, and at least 17 genera. These taxa are characteristic of lentic and slow-moving lotic bodies of water in this area. No new or unusual species were recorded. Adult odonates were collected from the shoreline around the pond by use of a large aerial net and identified using regional texts (Curry 2001, Glotzhober and McShaffrey 2002). A total of 11 species representing three families were recorded. Most of these species are common inhabitants of lentic waterbodies, although *Argia apicalis* and *A. moesta* are more commonly associated with lotic environments (such as the nearby White River). Four odonate species (*Argia moesta*, *A. tibialis*, *Ischnura posita*, and *Libellula incesta*) are all new records for Hamilton County, Indiana (Abbot 2007). Representative voucher specimens of both aquatic macroinvertebrates and adult Odonata will be deposited in the Purdue Entomological Research Collections.

References

Abbott, J. C. 2007. OdonataCentral: An online resource for the distribution and identification of Odonata. Texas Natural Science Center, The University of Texas at Austin. Available at <http://www.odonatacentral.org>. (Accessed: July 10, 2013).

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Merritt, R. W., K. W. Cummins and M. B. Berg (eds.). 2008. An Introduction to the Aquatic Insects of North America. Kendall/Hunt Publishing Company, Dubuque, Iowa. xvi + 1158 pp.

Thorp, J. H. and A. P. Covich (eds). 2001. Ecology and Classification of North American Freshwater Invertebrates, second edition. Academic Press, San Diego, CA. xvi + 1056 pp.

Table 7. List of singing insect species (5 species) [plus other insects incidentally noticed (12 species)] observed during the Conner Prairie Biodiversity Survey, June 8-9, 2013.

Team Leader: Carl Strang

Team Members: Scott Namestnik

<u>Scientific Name</u>	<u>Common Name</u>	<u>Habitat</u>	<u>Abundance</u>
Singing Insects, Order Orthoptera			
Family Gryllidae			
<i>Gryllus veletis</i>	Spring Field Cricket	Prairie	Common
<i>Anaxipha</i> species G	Spring Trig	Prairie	Common
Family Tettigoniidae			
<i>Metrioptera roesellii</i>	Roesel's Katydid	North Meadow Levee	1 Local Group
Family Acrididae			
<i>Arphia sulphurea</i>	Sulphur-winged Grasshopper	Prairie	1 Observed
<i>Chortophaga viridifasciata</i>	Green-striped Grasshopper	Prairie	Common
Other Insects Incidentally Observed, Order Odonata			
Family Coenagrionidae			
<i>Ichnura verticalis</i>	Eastern Forktail	Prairie	Several Observed
<i>Argia moesta</i>	Powdered Dancer	Prairie	Several Observed
Family Aeshnidae			
<i>Anax junius</i>	Common Green Darner	Prairie	1 Observed
Family Gomphidae			
<i>Gomphus vastus</i>	Cobra Clubtail	Prairie	2 Observed
Family Libellulidae			
<i>Plathemis lydia</i>	Common Whitetail	Prairie	Several Observed
<i>Libellula pulchella</i>	Twelve-spotted Skimmer	Prairie	A Few Observed
<i>Libellula luctuosa</i>	Widow Skimmer	Prairie	Several Observed
<i>Tramea lacerata</i>	Black Saddlebags	Prairie	1 Observed
Order Hymenoptera			
Family Apidae			
<i>Apis mellifera</i>	[European] Honeybee	Prairie	Common
<i>Bombus fervidus</i>	Yellow Bumble Bee	Prairie	1 Observed
<i>Bombus impatiens</i>	Common Eastern Bumble Bee	Prairie	1 Observed
<i>Bombus</i> sp.	Possibly <i>B. vagans</i> , the Half-black Bumble Bee	Prairie	Several Observed

Methods

I spent a total of 12 person-hours searching for singing insects, mainly in the prairie area. I spent less than an hour in forested areas, where the season was too early to expect members of this group. Methods mainly were walking the mowed lanes, looking and listening, with some time spent stalking and sweep-netting for the spring trig cricket, and a few checks of the beetle team's light stations after dark.

Special Interest Species

The spring trig is listed as *Anaxipha* n. sp. G on the Singing Insects of North America website. This species is not well known; as far as I can tell, this is the first observation of this species in Indiana, although they are common at Conner Prairie and probably elsewhere around the state. The finding of Roesel's katydids by Scott Namestnik essentially ties the southernmost observation to date in Indiana (I also have found them near Crawfordsville).

Voucher Specimen

I collected only one insect, a male spring trig. For the time being, I have retained it in my research collection in Warrenville, Illinois.

Summary Overview

The timing of the Connor Prairie Bioblitz was early enough in the season so that the only adult singing insect species found were those that overwinter as nymphs. Three of these species are regarded as common (spring field cricket, green-striped grasshopper, and sulfur-winged grasshopper), although only one individual of the last species was observed. One locally distributed group of Roesel's katydid nymphs, found by the botany team, adds Connor Prairie to the known southern boundary of that species' range in Indiana. Roesel's katydid is a European insect that still is expanding its range from its introduction site in Québec, Canada. The most interesting find was a small cricket commonly heard singing in the prairie. This proved to be the spring trig, a species identified only by that common name and the temporary designation "*Anaxipha* n. sp. G" in the Singing Insects of North America website, hosted by the University of Florida. This apparently is the first observation of the species in Indiana, although in time it probably will prove to be widely distributed and common, at least in the southern part of the state.



Gomphus vastus, Cobra Clubtail. Photo by Carl Strang.



Chortophaga viridifasciata, Green-striped Grasshopper. Photo by Carl Strang.

Table 8. List of Sciomyzidae (i.e., snail-killing flies) species (7 species) observed during the Conner Prairie Biodiversity Survey, June 8-9, 2013.

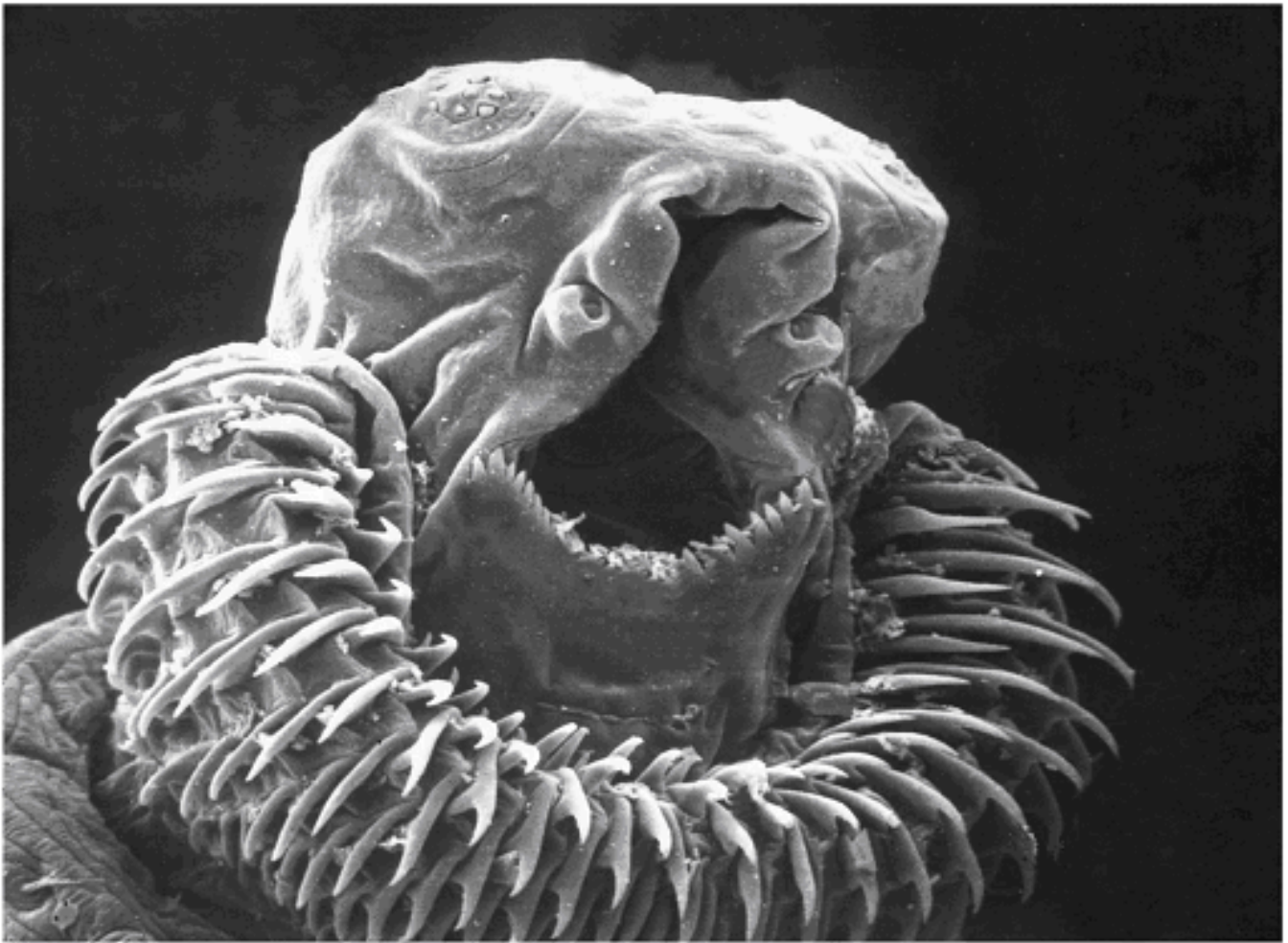
Team Leader: William L. Murphy

Team Members: None

<u>Species</u>	<u>Count</u>
<i>Dictya borealis</i> Curran	2
<i>D. expansa</i> Steyskal	1
<i>D. sabroskyi</i> Steyskal	1
<i>D. texensis</i> Curran	1
<i>Sepedon armipes</i> Loew	1
<i>Tetanocera loewi</i> Steyskal	2
<i>Trypetoptera canadensis</i> (Macquart)	4
TOTAL	12

Summary Overview

Sciomyzid flies.—Twelve individuals of seven species of Sciomyzidae (snail-killing flies) were found [See table above]. Considering the scarcity of suitable habitat (standing water: marsh, swale, fen, bog, etc.) at the BioBlitz site, the number of species found was surprisingly high. A cold water seep west of White River produced *Tetanocera loewi*, a new species of sciomyzid for Hamilton County. This is the southernmost Indiana record of this northern species; the previous southernmost record was from Tipton County. The four *Trypetoptera canadensis*, a floodplain predator of pulmonate terrestrial snails, were found precisely where that species would be expected to occur -- in the vernal flooded zone between the artificial levee and the natural sand dike along White River. The guild of species found indicated a healthy population in the floodplain and a possible glacial refuge along the seep.



Anterior end of a first-instar larva of a typical woodland species of *Euthycera* (*E. cribrata*). It preys on terrestrial snails like *Succinea* species.

From Vala, J-C., J. M. Reidenbach & C. Gasc. 1983. Biologie des stades larvaires d'*Euthycera cribrata* (Rondani 1868), parasitoïde de Gastéropodes terrestres. Premier cycle expérimental d'une espèce du genre *Euthycera* Latreille 1829 (Dipt., Sciomyzidae). Bull. Soc. Entomol. Fr. 88: 250-258. Printed with permission.

Table 9. List of spider species (20 species) observed during the Conner Prairie Biodiversity Survey, June 8-9, 2013.

Team Leader: Brittany Davis-Swinford

Team Members: None

<u>Spider Species</u>	<u>Common Name</u>
<i>Agelenopsis pennsylvanica</i>	Grass Spider
<i>Calloblis bennetti</i>	Hackled Mesh Weaver
<i>Cyclosa turbinata</i>	Trashline Orbweaver
<i>Dolmedes tenebrosus</i>	Common Fishing Spider
<i>Dolmedes triton</i>	Six-spotted Fishing Spider
<i>Frontinella communis</i>	Bowl and Doily Spider
<i>Geolycosa missouriensis</i>	Burrowing Wolf Spider
<i>Hogna helluo</i>	Field Wolf Spider
<i>Leucauge vonusta</i>	Orchard Spider
<i>Misumena vatia</i>	Goldenrod Crab Spider
<i>Neriene radiata</i>	Filmy Dome Spider
<i>Parasteatoda tepidariorum</i>	Common House Spider
<i>Phidippus audax</i>	Bold Jumping Spider
<i>Pholcus phalangiodes</i>	Long-bodied Cellar Spider
<i>Pisaurina mira</i>	Nursery Web Spider
<i>Schizocosa ocreata</i>	Brush-legged Wolf Spider
<i>Steatoda triangulosa</i>	Checkered Cobweb
<i>Tegenaria domestica</i>	House Funnel Weaver
<i>Tetragnatha elongata</i>	Long-jawed Orbweaver
<i>Tibellus oblungus</i>	Grassland Crab Spider

<u>Harvestmen Species</u>	<u>Common Name</u>
<i>Leiobunum vittatum</i>	Eastern Harvestmen

Methods and Summary

I surveyed for spiders on Sunday, June 9, from 9 AM to 2 PM, on my own, I found 19 spider species and 1 harvestman species. I surveyed restrooms, barns, prairie, ponds, and the attic of the China House. If the Bioblitz had taken place a few weeks later, I estimate that the spider count would have doubled.

Table 10. List of vascular plant species (458 taxa) observed during the Conner Prairie Biodiversity Survey, June 8-9, 2013.

Team Leader: Scott Namestnik

Team Members: Curt Burnette, Willy DeSmet, Krysta Eggleston, Nick Harby, Alice Heikens, Ben Hess, Collin Hobbs, Abigail Lima, Paul Rothrock, Don Ruch, Megan Smith, Adam Thada, Kevin Tunesvick

Nomenclature generally follows The PLANTS Database (USDA, NRCS 2013); where family classifications differ from those of the Angiosperm Phlogeny Group (APG); APG classifications are included in brackets. Common names, indicator statuses, C-values, and native/non-native status follow Floristic Quality Assessment in Indiana: The concept, Use, and Development of Coefficients of Conservatism (Rothrock 2004). This information will be presented in two parts. Part 1 includes scientific names, with authorities, common names, and indication as to whether the plant is native. Part 2 includes scientific names without authorities, Coefficient of Conservatism values [C], indicator status, potential Hamilton County records, and habitats of occurrence.

PART 1: Scientific names, common names, native status [an “X” indicates that it is native].

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
EQUISETOPHYTES		
Equisetaceae (Horsetail Family)		
<i>Equisetum arvense</i> L.	Common Horsetail	X
<i>Equisetum hyemale</i> L. var. <i>affine</i> (Engelm.) A.A. Eaton	Tall Scouring Rush	X
PTERIDOPHYTES		
Aspleniaceae (Spleenwort Family)		
<i>Asplenium platyneuron</i> (L.) Britton, Sterns & Poggenb.	EbonySpleenwort	X
Dryopteridaceae (Wood Fern Family)		
<i>Cystopteris protrusa</i> (Weath.) Blasdell	Common Fragile Fern	X
<i>Polystichum acrostichoides</i> (Michx.) Schott	Christmas Fern	X
Ophioglossaceae (Adder's-tongue Family)		
<i>Botrychium virginianum</i> (L.) Sw.	Rattlesnake Fern	X
Pteridaceae (Maidenhair Fern Family)		
<i>Adiantum pedatum</i> L.	Maidenhair Fern	X
Thelypteridaceae (Marsh Fern Family)		
<i>Phegopteris hexagonoptera</i> (Michx.) Fée	Broad Beech Fern	X
GYMNOSPERMS		
Cupressaceae (Cypress Family)		
<i>Juniperus virginiana</i> L.	Eastern Red Cedar	X
Ginkgoaceae (Ginkgo Family)		
<i>Ginkgo biloba</i> L.	Maidenhair Tree	--

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
Pinaceae (Pine Family)		
<i>Picea abies</i> (L.) Karst.	Norway Spruce	--
<i>Pinus strobus</i> L.	White Pine	X
<i>Tsuga canadensis</i> (L.) Carriere	Hemlock	X
ANGIOSPERMS		
Acanthaceae (Acanthus Family)		
<i>Ruellia strepens</i> L.	Smooth Ruellia	X
Aceraceae (Maple Family) [Sapindaceae]		
<i>Acer negundo</i> L.	Boxelder	X
<i>Acer platanoides</i> L.	Norway Maple	--
<i>Acer saccharinum</i> L.	Silver Maple	X
<i>Acer saccharum</i> Marshall var. <i>saccharum</i>	Sugar Maple	X
Amaranthaceae (Amaranth Family)		
<i>Amaranthus tuberculatus</i> (Moq.) Sauer	Tall Water Hemp	X
Anacardiaceae (Sumac Family)		
<i>Rhus glabra</i> L.	Smooth Sumac	X
<i>Toxicodendron radicans</i> (L.) Kuntze	Poison Ivy	X
Annonaceae (Custard-apple Family)		
<i>Asimina triloba</i> (L.) Dunal	Papaw	X
Apiaceae (Carrot Family)		
<i>Angelica atropurpurea</i> L.	Great Angelica	X
<i>Conium maculatum</i> L.	Poison Hemlock	--
<i>Cryptotaenia canadensis</i> (L.) DC.	Honewort	X
<i>Daucus carota</i> L.	Queen Anne's Lace	--
<i>Osmorhiza claytonii</i> (Michx.) C.B. Clarke	Hairy Sweet Cicely	X
<i>Osmorhiza longistylis</i> (Torr.) DC.	Anise Root	X
<i>Sanicula canadensis</i> L.	Canadian Black Snakeroot	X
<i>Sanicula odorata</i> (Raf.) K.M. Pryer & L.R. Phillippe	Clustered Black Snakeroot	X
<i>Taenidia integerrima</i> (L.) Drude	Yellow Pimpernel	X
Apocynaceae (Dogbane Family)		
<i>Apocynum cannabinum</i> L.	Dogbane	X
<i>Vinca minor</i> L.	Common Periwinkle	--
Araceae (Arum Family)		
<i>Arisaema dracontium</i> (L.) Schott	Green Dragon	X
<i>Arisaema triphyllum</i> (L.) Schott	Indian Turnip	X
Araliaceae (Ginseng Family)		
<i>Panax quinquefolius</i> L.	Ginseng	X
Aristolochiaceae (Birthwort Family)		
<i>Aristolochia serpentaria</i> L.	Birthwort	X
<i>Asarum canadense</i> L.	Canada Wild Ginger	X
Asclepiadaceae (Milkweed Family) [Apocynaceae]		
<i>Asclepias syriaca</i> L.	Common Milkweed	X
<i>Cynanchum laeve</i> (Michx.) Pers.	Bluevine	X

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
Asteraceae (Aster Family)		
<i>Achillea millefolium</i> L.	Common Milfoil	X
<i>Ageratina altissima</i> (L.) King & H. Rob.	White Snakeroot	X
<i>Ambrosia artemisiifolia</i> L. var. <i>elator</i> (L.) Descourtils	Common Ragweed	X
<i>Ambrosia trifida</i> L.	Giant Ragweed	X
<i>Antennaria plantaginifolia</i> (L.) Richardson	Common Pussy Toes	X
<i>Arctium minus</i> Bernh.	Common Burdock	--
<i>Artemisia annua</i> L.	Annual Wormwood	--
<i>Bidens frondosa</i> L.	Common Beggar's Ticks	X
<i>Bidens</i> L. (<i>B. connata</i> Muhl. Ex Willd. or <i>B. tripartita</i> L.)	Tickseed	X
<i>Carduus nutans</i> L.	Musk Bristle Thistle	--
<i>Cichorium intybus</i> L.	Chickory	--
<i>Cirsium arvense</i> (L.) Scop.	Field Thistle	--
<i>Cirsium discolor</i> (Muhl. ex Willd.) Spreng.	Pasture Thistle	X
<i>Cirsium vulgare</i> (Savi) Ten.	Bull Thistle	--
<i>Conyza canadensis</i> (L.) Cronquist	Horseweed	X
<i>Echinacea purpurea</i> (L.) Moench	Broad-Leaved Purple Coneflower	X
<i>Erigeron annuus</i> (L.) Pers.	Annual Fleabane	X
<i>Erigeron philadelphicus</i> L.	Marsh Fleabane	X
<i>Eupatorium perfoliatum</i> L.	Common Boneset	X
<i>Eupatorium serotinum</i> Michx.	Late Boneset	X
<i>Eutrochium purpureum</i> (L.) E.E. Lamont var. <i>purpureum</i>	Purple Joe Pye Weed	X
<i>Hasteola suaveolens</i> (L.) Pojark.	Sweet Indian Plantain	X
<i>Helianthus</i> L. (possibly <i>H. decapetalus</i> L.)	Sunflower	X
<i>Heliopsis helianthoides</i> (L.) Sweet	False Sunflower	X
<i>Lactuca floridana</i> (L.) Gaertn.	Blue Lettuce	X
<i>Lactuca serriola</i> L.	Prickly Lettuce	--
<i>Matricaria discoidea</i> DC.	Pineapple Weed	--
<i>Packera glabella</i> (Poir.) C. Jeffrey	Butterweed	X
<i>Packera obovata</i> (Muhl. ex Willd.) W.A. Weber & Á. Löve	Round-Leaved Ragwort	X
<i>Polymnia canadensis</i> L.	Pale Leafcup	X
<i>Prenanthes altissima</i> L.	Tall White Lettuce	X
<i>Prenanthes crepidinea</i> Michx.	Great White Lettuce	X
<i>Ratibida pinnata</i> (Vent.) Barnhart	Yellow Coneflower	X
<i>Rudbeckia hirta</i> L.	Black-Eyed Susan	X
<i>Rudbeckia laciniata</i> L.	Wild Golden Glow	X
<i>Rudbeckia subtomentosa</i> Pursh	Sweet Black-Eyed Susan	X
<i>Silphium perfoliatum</i> L.	Cup Plant	X
<i>Solidago altissima</i> L.	Tall Goldenrod	X
<i>Solidago caesia</i> L.	Bluestem Goldenrod	X
<i>Solidago canadensis</i> L. var. <i>hargerii</i> Fernald	Harger's Goldenrod	X
<i>Solidago flexicaulis</i> L.	Broad-Leaved Goldenrod	X
<i>Solidago gigantea</i> Aiton	Late Goldenrod	X
<i>Solidago ulmifolia</i> Muhl. ex Willd.	Elm-Leaved Goldenrod	X
<i>Sonchus asper</i> (L.) Hill	Prickly Sow Thistle	--
<i>Symphyotrichum cordifolium</i> (L.) G.L. Nesom	Heart-Leaved Aster	X
<i>Symphyotrichum lanceolatum</i> (Willd.) G.L. Nesom	Panicled Aster	X
<i>Symphyotrichum lateriflorum</i> (L.) Á. Löve & D. Löve	Side-Flowering Aster	X
<i>Symphyotrichum pilosum</i> (Willd.) G.L. Nesom var. <i>pilosum</i>	Hairy Aster	X
<i>Symphyotrichum shortii</i> (Lindl.) G.L. Nesom	Short's Aster	X
<i>Symphyotrichum urophyllum</i> (Lindl.) G.L. Nesom	Arrow-Leaved Aster	X
<i>Taraxacum officinale</i> F.H. Wigg.	Common Dandelion	--
<i>Tragopogon dubius</i> Scop.	Sand Goat's Beard	--
<i>Tragopogon lamottei</i> Rouy	Common Goat's Beard	--
<i>Verbesina alternifolia</i> (L.) Britton ex Kearney	Wingstem	X
<i>Vernonia gigantea</i> (Walter) Trel.	Tall Ironweed	X

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
Balsaminaceae (Touch-me-not Family)		
<i>Impatiens capensis</i> Meerb.	Spotted Touch-Me-Not	X
<i>Impatiens pallida</i> Nutt.	Pale Touch-Me-Not	X
Berberidaceae (Barberry Family)		
<i>Berberis thunbergii</i> DC.	Japanese Barberry	--
<i>Podophyllum peltatum</i> L.	May Apple	X
Betulaceae (Birch Family)		
<i>Carpinus caroliniana</i> Walter ssp. <i>virginiana</i> (Marshall) Furlow	Blue Beech	X
<i>Ostrya virginiana</i> (Mill.) K. Koch	Hop Hornbeam	X
Bignoniaceae (Trumpet-creeper Family)		
<i>Campsis radicans</i> (L.) Seem. ex. Bureau	Trumpet Creeper	X
<i>Catalpa bignonioides</i> Walter	Common Catalpa	--
Boraginaceae (Borage Family)		
<i>Hackelia virginiana</i> (L.) I.M. Johnst.	Stickseed	X
<i>Myosotis scorpioides</i> L.	Common Forget-Me-Not	--
Brassicaceae (Mustard Family)		
<i>Alliaria petiolata</i> (M. Bieb.) Cavara & Grande	Garlic Mustard	--
<i>Arabis laevigata</i> (Muhl. ex Willd.) Poir	Smooth Rock Cress	X
<i>Arabis shortii</i> (Fernald) Gleason	Toothed Cress	X
<i>Barbarea vulgaris</i> W.T. Aiton	Yellow Rocket	--
<i>Capsella bursa-pastoris</i> (L.) Medik.	Shepherd's Purse	--
<i>Cardamine pensylvanica</i> Muhl. ex Willd.	Pennsylvania Bitter Cress	X
<i>Draba verna</i> L.	Mouse-Eared Whitlow Cress	--
<i>Hesperis matronalis</i> L.	Dame's Rocket	--
<i>Iodanthus pinnatifidus</i> (Michx.) Steud.	Violet Cress	X
<i>Lepidium campestre</i> (L.) W.T. Aiton	Field Cress	--
<i>Lepidium virginicum</i> L.	Common Pepper Grass	X
<i>Nasturtium officinale</i> W.T. Aiton	Water Cress	--
<i>Rorippa palustris</i> (L.) Besser ssp. <i>fernaldiana</i> (Butters & Abbe) Jonsell	Marsh Yellow Cress	X
<i>Rorippa sessiliflora</i> (Nutt.) Hitchc.	Sessile-Flowered Cress	X
<i>Sisymbrium officinale</i> (L.) Scop.	Hedge Mustard	--
<i>Thlaspi arvense</i> L.	Field Penny Cress	--
Campanulaceae (Bellflower Family)		
<i>Campanulastrum americanum</i> (L.) Small	American Bellflower	X
<i>Lobelia inflata</i> L.	Indian Tobacco	X
<i>Lobelia siphilitica</i> L.	Great Blue Lobelia	X
<i>Triodanis perfoliata</i> (L.) Nieuwl.	Venus's Looking Glass	X
Caprifoliaceae (Honeysuckle Family)		
<i>Lonicera japonica</i> Thunb.	Japanese Honeysuckle	--
<i>Lonicera maackii</i> (Rupr.) Herder	Amur Honeysuckle	--
<i>Lonicera tatarica</i> L.	Tartarian Honeysuckle	--
<i>Lonicera</i> L.	Honeysuckle	--
<i>Sambucus nigra</i> L. ssp. <i>canadensis</i> (L.) R. Bolli	Common Elderberry	X
<i>Symphoricarpos orbiculatus</i> Moench	Coralberry	X
<i>Viburnum opulus</i> L. var. <i>opulus</i>	European High-Bush Cranberry	--
<i>Viburnum prunifolium</i> L.	Black Haw	X
<i>Viburnum recognitum</i> Fernald	Smooth Arrowwood	--

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
Caryophyllaceae (Pink Family)		
<i>Arenaria serpyllifolia</i> L.	Thyme-Leaved Sandwort	--
<i>Cerastium pumilum</i> W. Curtis	Curtis's Mouse-Ear Chickweed	--
<i>Saponaria officinalis</i> L.	Bouncing Bet	--
<i>Silene antirrhina</i> L.	Sleepy Catchfly	X
<i>Silene latifolia</i> Poir. ssp. <i>alba</i> (Mill.) Greuter & Burdet	White Champion	--
<i>Silene stellata</i> (L.) W.T. Aiton	Starry Champion	X
<i>Silene virginica</i> L.	Fire Pink	X
<i>Stellaria media</i> (L.) Vill.	Common Chickweed	--
<i>Stellaria pubera</i> Michx.	Great Chickweed	X
Celastraceae (Bittersweet Family)		
<i>Celastrus orbiculatus</i> Thunb.	Oriental Bittersweet	--
<i>Euonymus alatus</i> (Thunb.) Siebold	Winged Euonymus	--
<i>Euonymus fortunei</i> (Turcz.) Hand.-Maz.	Wintercreeper	--
Ceratophyllaceae (Hornwort Family)		
<i>Ceratophyllum demersum</i> L.	Coontail	X
Chenopodiaceae (Goosefoot Family) [Amaranthaceae]		
<i>Chenopodium album</i> L.	Lamb's Quarters	--
Clusiaceae (Mangosteen Family) [Hypericaceae]		
<i>Hypericum punctatum</i> Lam.	Spotted St. John's Wort	X
Commelinaceae (Spiderwort Family)		
<i>Tradescantia subaspera</i> Ker Gawl.	Broad-Leaved Spiderwort	X
<i>Tradescantia virginiana</i> L.	Virginia Spiderwort	X
Convolvulaceae (Morning-glory Family)		
<i>Calystegia sepium</i> (L.) R. Br.	American Bindweed	X
<i>Convolvulus arvensis</i> L.	Field Bindweed	--
<i>Ipomoea pandurata</i> (L.) G. Mey.	Wild Sweet Potato	X
Cornaceae (Dogwood Family)		
<i>Cornus drummondii</i> C.A. Mey.	Rough-Leaved Dogwood	X
<i>Cornus florida</i> L.	Flowering Dogwood	X
<i>Nyssa sylvatica</i> Marshall	Black Gum	X
Crassulaceae (Stonecrop Family)		
<i>Sedum ternatum</i> Michx.	Three-Leaved Stonecrop	X
Cuscutaceae (Dodder Family) [Convolvulaceae]		
<i>Cuscuta gronovii</i> Willd. ex Schult.	Common Dodder	X
Cyperaceae (Sedge Family)		
<i>Carex aggregata</i> Mack.	Smooth Clustered Sedge	X
<i>Carex albicans</i> Willd. ex Spreng. var. <i>albicans</i>	Blunt-Scaled Oak Sedge	X
<i>Carex albursina</i> Sheldon	Blunt-Scaled Wood Sedge	X
<i>Carex amphibola</i> Steud.	False Gray Sedge	X
<i>Carex blanda</i> Dewey	Common Wood Sedge	X
<i>Carex careyana</i> Torr. ex Dewey	Carey's Wood Sedge	X
<i>Carex cephalophora</i> Muhl. ex Willd.	Short-Headed Bracted Sedge	X
<i>Carex communis</i> L.H. Bailey	Common Beech Sedge	X
<i>Carex conjuncta</i> Boott	Green-Headed Fox Sedge	X
<i>Carex davisii</i> Schwein. & Torr.	Awned Graceful Sedge	X
<i>Carex frankii</i> Kunth	Bristly Cattail Sedge	X

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
<i>Carex granularis</i> Muhl. ex Willd.	Pale Sedge	X
<i>Carex grayi</i> Carey	Common Bur Sedge	X
<i>Carex grisea</i> Wahlenb.	Wood Gray Sedge	X
<i>Carex hirtifolia</i> Mack.	Hairy Wood Sedge	X
<i>Carex hitchcockiana</i> Dewey	Hairy Gray Sedge	X
<i>Carex jamesii</i> Schwein.	Grass Sedge	X
<i>Carex laevivaginata</i> (Kük.) Mack.	Smooth-Sheathed Fox Sedge	X
<i>Carex laxiculmis</i> Schwein. var. <i>copulata</i> (L.H. Bailey) Fern.	Spreading Sedge	X
<i>Carex laxiflora</i> Lam.	Beech Wood Sedge	X
<i>Carex leavenworthii</i> Dewey	Dwarf Bracted Sedge	X
<i>Carex lurida</i> Wahlenb.	Bottlebrush Sedge	X
<i>Carex molesta</i> Mack. ex Bright	Field Oval Sedge	X
<i>Carex normalis</i> Mack.	Spreading Oval Sedge	X
<i>Carex oligocarpa</i> Schkuhr ex Willd.	Few-Fruited Gray Sedge	X
<i>Carex pennsylvanica</i> Lam.	Pennsylvania Oak Sedge	X
<i>Carex radiata</i> (Wahlenb.) Small	Straight-Styled Bracted Sedge	X
<i>Carex rosea</i> Schkuhr ex Willd.	Curly-Styled Bracted Sedge	X
<i>Carex shortiana</i> Dewey	Short's Sedge	X
<i>Carex sparganioides</i> Muhl. ex Willd.	Loose-Headed Bracted Sedge	X
<i>Carex stipata</i> Muhl. ex Willd. var. <i>stipata</i>	Common Fox Sedge	X
<i>Carex swanii</i> (Fernald) Mack.	Downy Green Sedge	X
<i>Carex vulpinoidea</i> Michx.	Brown Fox Sedge	X
<i>Carex woodii</i> Dewey	Wood's Stiff Sedge	X
<i>Cyperus esculentus</i> L. var. <i>leptostachyus</i> Boeckeler	Field Nut Sedge	X
<i>Eleocharis acicularis</i> (L.) Roem. & Schult.	Needle Spike Rush	X
<i>Eleocharis erythropoda</i> Steud.	Red-Rooted Spike Rush	X
<i>Schoenoplectus tabernaemontani</i> (C.C. Gmel) Palla	Great Bulrush	X
<i>Scirpus atrovirens</i> Willd.	Dark-Green Bulrush	X
<i>Scirpus pendulus</i> Muhl.	Red Bulrush	X
Dipsacaceae (Teasel Family) [Caprifoliaceae]		
<i>Dipsacus fullonum</i> L.	Common Teasel	--
Ebenaceae (Ebony Family)		
<i>Diospyros virginiana</i> L.	Persimmon	X
Elaeagnaceae (Oleaster Family)		
<i>Elaeagnus umbellata</i> Thunb.	Autumn Olive	--
Euphorbiaceae (Spurge Family)		
<i>Acalypha rhomboidea</i> Raf.	Three-Seeded Mercury	X
<i>Euphorbia corollata</i> L.	Flowering Spurge	X
Fabaceae (Pea Family)		
<i>Astragalus canadensis</i> L.	Canadian Milk Vetch	X
<i>Cercis canadensis</i> L.	Eastern Redbud	X
<i>Chamaecrista fasciculata</i> (Michx.) Greene	Golden Cassia	X
<i>Chamaecrista nictitans</i> (L.) Moench	Wild Sensitive Plant	X
<i>Dalea candida</i> Michx. ex Willd.	White Prairie Clover	X
<i>Dalea purpurea</i> Vent.	Purple Prairie Clover	X
<i>Desmanthus illinoensis</i> (Michx.) MacMill. ex B.L. Rob. & Fernald	Illinois Bundle Flower	X
<i>Gleditsia triacanthos</i> L.	Honey Locust	X
<i>Lotus corniculatus</i> L.	Birdsfoot Trefoil	--
<i>Medicago lupulina</i> L.	Black Medick	--
<i>Medicago sativa</i> L. ssp. <i>sativa</i>	Common Alfalfa	--
<i>Melilotus albus</i> Medik.	White Sweet Clover	--

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
<i>Melilotus officinalis</i> (L.) Lam.	Yellow Sweet Clover	--
<i>Securigera varia</i> (L.) Lassen	Crown Vetch	--
<i>Trifolium campestre</i> Schreb.	Low Hop Clover	--
<i>Trifolium dubium</i> Sibth.	Little Hop Clover	--
<i>Trifolium hybridum</i> L.	Alsike Clover	--
<i>Trifolium pratense</i> L.	Red Clover	--
<i>Trifolium repens</i> L.	White Clover	--
Fagaceae (Beech Family)		
<i>Fagus grandifolia</i> Ehrh.	American Beech	X
<i>Quercus alba</i> L.	White Oak	X
<i>Quercus macrocarpa</i> Michx.	Burr Oak	X
<i>Quercus muehlenbergii</i> Engelm.	Chinkapin Oak	X
<i>Quercus rubra</i> L.	Northern Red Oak	X
<i>Quercus velutina</i> Lam.	Black Oak	X
Fumariaceae (Fumitory Family) [Papaveraceae]		
<i>Dicentra cucullaria</i> (L.) Bernh.	Dutchman's Breeches	X
Geraniaceae (Geranium Family)		
<i>Geranium carolinianum</i> L.	Carolina Cranesbill	X
<i>Geranium maculatum</i> L.	Wild Geranium	X
Grossulariaceae (Currant Family)		
<i>Ribes cynosbati</i> L.	Prickly Wild Gooseberry	X
Hamamelidaceae (Witch-hazel Family) [Altingiaceae]		
<i>Liquidambar styraciflua</i> L.	Sweet Gum	X
Hippocastanaceae (Horse-chestnut Family) [Sapindaceae]		
<i>Aesculus glabra</i> Willd.	Ohio Buckeye	X
Hydrangeaceae (Hydrangea Family)		
<i>Hydrangea arborescens</i> L.	Wild Hydrangea	X
Hydrophyllaceae (Waterleaf Family)		
<i>Hydrophyllum macrophyllum</i> Nutt.	Large-Leaf Waterleaf	X
<i>Hydrophyllum virginianum</i> L.	Virginia Waterleaf	X
Iridaceae (Iris Family)		
<i>Iris germanica</i> L.	German Iris	--
<i>Sisyrinchium angustifolium</i> Mill.	Stout Blue-Eyed Grass	X
Juglandaceae (Walnut Family)		
<i>Carya cordiformis</i> (Wangenh.) K. Koch	Bitternut Hickory	X
<i>Carya laciniosa</i> (Michx. f.) G. Don	Big Shellbark Hickory	X
<i>Carya ovalis</i> (Wangenh.) Sarg.	Red Hickory	X
<i>Carya ovata</i> (Mill.) K. Koch	Shagbark Hickory	X
<i>Juglans nigra</i> L.	Black Walnut	X
Juncaceae (Rush Family)		
<i>Juncus dudleyi</i> Wiegand	Dudley's Rush	X
<i>Juncus tenuis</i> Willd.	Path Rush	X
<i>Luzula multiflora</i> (Ehrh.) Lej.	Common Wood Rush	X

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
Lamiaceae (Mint Family)		
<i>Agastache nepetoides</i> (L.) Kuntze	Yellow Giant Hyssop	X
<i>Collinsonia canadensis</i> L.	Citronella Horse Balm	X
<i>Glechoma hederacea</i> L.	Ground Ivy	--
<i>Lamium amplexicaule</i> L.	Henbit	--
<i>Lamium purpureum</i> L.	Purple Dead Nettle	--
<i>Leonurus cardiaca</i> L.	Motherwort	--
<i>Lycopus americanus</i> Muhl. ex W.P.C. Barton	Common Water Horehound	X
<i>Mentha spicata</i> L.	Spearmint	--
<i>Nepeta cataria</i> L.	Catnip	--
<i>Scutellaria incana</i> Biehler	Downy Skullcap	X
<i>Scutellaria nervosa</i> Pursh	Veiny Skullcap	X
<i>Scutellaria ovata</i> Hill	Heart-Leaved Skullcap	X
<i>Stachys tenuifolia</i> Willd.	Streambank Hedge Nettle	X
<i>Teucrium canadense</i> L.	American Germander	X
Lauraceae (Laurel Family)		
<i>Lindera benzoin</i> (L.) Blume	Hairy Spicebush	X
<i>Sassafras albidum</i> (Nutt.) Nees	Sassafras	X
Lemnaceae (Duckweed Family) [Araceae]		
<i>Lemna minor</i> L.	Small Duckweed	X
<i>Spirodela polyrrhiza</i> (L.) Schleid.	Great Duckweed	X
<i>Wolffia columbiana</i> Karst.	Globose Water Meal	X
Liliaceae (Lily Family) [Alliaceae, Agavaceae, Colchicaceae, Hemerocallidaceae, Melanthiaceae, Ruscaceae]		
<i>Allium canadense</i> L.	Wild Garlic	X
<i>Allium burdickii</i> (Hanes) A.G. Jones	Wild Leek	X
<i>Camassia scilloides</i> (Raf.) Cory	Wild Hyacinth	X
<i>Hemerocallis fulva</i> (L.) L.	Orange Day Lily	--
<i>Maianthemum racemosum</i> (L.) Link	Feathery False Solomon Seal	X
<i>Polygonatum biflorum</i> (Walter) Elliott	Smooth Solomon's Seal	X
var. <i>biflorum</i> (Walter) Elliott		
<i>Polygonatum biflorum</i> (Walter) Elliott	Smooth Solomon's Seal	X
var. <i>commutatum</i> (Schult. & Schult. f.) Morong		
<i>Trillium recurvatum</i> Beck	Red Trillium	X
<i>Trillium sessile</i> L.	Sessile Trillium	X
<i>Trillium</i> L. (<i>T. flexipes</i> or <i>T. grandiflorum</i>)	Trillium	X
<i>Uvularia grandiflora</i> Sm.	Large-Flower Bellwort	X
<i>Veratrum woodii</i> J.W. Robbins ex Alph. Wood	False Hellebore	X
Magnoliaceae (Magnolia Family)		
<i>Liriodendron tulipifera</i> L.	Tulip Poplar	X
Malvaceae (Mallow Family)		
<i>Abutilon theophrasti</i> Medik.	Buttonweed	--
<i>Malva neglecta</i> Wallr.	Cheeses	--
Menispermaceae (Moonseed Family)		
<i>Menispermum canadense</i> L.	Moonseed	X
Moraceae (Mulberry Family)		
<i>Morus alba</i> L.	White Mulberry	--
<i>Morus rubra</i> L.	Red Mulberry	X
Nyctaginaceae (Four O'clock Family)		
<i>Mirabilis nyctaginea</i> (Michx.) MacMill.	Wild Four O'clock	--

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
Oleaceae (Olive Family)		
<i>Fraxinus americana</i> L.	White Ash	X
<i>Fraxinus pennsylvanica</i> Marsh. var. <i>lanceolata</i> (Borkh.) Sarg.	Green Ash	X
<i>Fraxinus quadrangulata</i> Michx.	Blue Ash	X
<i>Ligustrum obtusifolium</i> Siebold & Zucc.	Border Privet	--
<i>Ligustrum vulgare</i> L.	Common Privet	--
Onagraceae (Evening Primrose Family)		
<i>Circaea lutetiana</i> L. ssp. <i>canadensis</i> (L.) Asch. & Magnus	Enchanter's Nightshade	X
<i>Epilobium coloratum</i> Biehler	Cinnamon Willow Herb	X
<i>Oenothera biennis</i> L.	Common Evening Primrose	X
Orchidaceae (Orchid Family)		
<i>Liparis liliifolia</i> (L.) Rich. ex Ker Gawl.	Purple Twayblade	X
Orobanchaceae (Broom-rape Family)		
<i>Epifagus virginiana</i> (L.) W.P.C. Barton	Beech Drops	X
Oxalidaceae (Wood-sorrel Family)		
<i>Oxalis stricta</i> L.	Tall Wood Sorrel	X
Paeoniaceae (Peony Family)		
<i>Paeonia</i> L.	Peony	--
Papaveraceae (Poppy Family)		
<i>Papaver orientale</i> L.	Oriental Poppy	--
<i>Sanguinaria canadensis</i> L.	Bloodroot	X
<i>Stylophorum diphyllum</i> (Michx.) Nutt.	Celandine Poppy	X
Phytolaccaceae (Pokeweed Family)		
<i>Phytolacca americana</i> L.	Pokeweed	X
Plantaginaceae (Plantain Family)		
<i>Plantago lanceolata</i> L.	English Plantain	--
<i>Plantago rugelii</i> Decne.	Red-Stalked Plantain	X
Platanaceae (Plane-tree Family)		
<i>Platanus occidentalis</i> L.	Sycamore	X
Poaceae (Grass Family)		
<i>Alopecurus carolinianus</i> Walter	Annual Foxtail	X
<i>Andropogon gerardii</i> Vitman	Big Bluestem Grass	X
<i>Andropogon virginicus</i> L.	Broom Sedge	X
<i>Bouteloua curtipendula</i> (Michx.) Torr.	Side-Oats Grama	X
<i>Brachyelytrum erectum</i> (Schreb. ex Spreng.) P. Beauv.	Long-Awned Wood Grass	X
<i>Bromus arvensis</i> L.	Japanese Chess	--
<i>Bromus inermis</i> Leyss.	Hungarian Brome	--
<i>Bromus pubescens</i> Muhl. ex Willd.	Woodland Brome	X
<i>Bromus racemosus</i> L.	Hairy Brome	--
<i>Bromus tectorum</i> L.	Cheat Grass	--
<i>Cinna arundinacea</i> L.	Common Wood Reed	X
<i>Dactylis glomerata</i> L.	Orchard Grass	--
<i>Danthonia spicata</i> (L.) P. Beauv. ex Roem. & Schult.	Poverty Oat Grass	X
<i>Diarrhena americana</i> P. Beauv.	American Beak Grass	X
<i>Dichanthelium acuminatum</i> (Sw.) Gould & C.A. Clark var. <i>fasciculatum</i> (Torr.) Freckmann	Woolly Panic Grass	X

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
<i>Dichanthelium latifolium</i> (L.) Gould & C.A. Clark	Broad-Leaved Panic Grass	X
<i>Elymus canadensis</i> L.	Canada Wild Rye	X
<i>Elymus hystrix</i> L.	Bottlebrush Grass	X
<i>Elymus macgregorii</i> R. Brooks & J.J.N. Campb.	Early Wild Rye	X
<i>Elymus repens</i> (L.) Gould	Quack Grass	--
<i>Elymus villosus</i> Muhl. ex Willd.	Hairy Wild Rye	X
<i>Elymus virginicus</i> L.	Virginia Wild Rye	X
<i>Festuca ovina</i> L.	Hard Fescue	--
<i>Festuca subverticillata</i> (Pers.) Alexeev	Nodding Fescue	X
<i>Glyceria striata</i> (Lam.) Hitchc.	Fowl Manna Grass	X
<i>Hordeum jubatum</i> L.	Squirrel-Tail Grass	--
<i>Leersia oryzoides</i> (L.) Sw.	Rice Cut Grass	X
<i>Leersia virginica</i> Willd.	White Grass	X
<i>Lolium perenne</i> L.	Perennial Rye Grass	--
<i>Muhlenbergia frondosa</i> (Poir.) Fernald	Common Satin Grass	X
<i>Muhlenbergia schreberi</i> J.F. Gmel.	Nimblewill	X
<i>Phalaris arundinacea</i> L.	Reed Canary Grass	--
<i>Phleum pratense</i> L.	Timothy Grass	--
<i>Phyllostachys aurea</i> Carrière ex A. Rivière & C. Rivière	Golden Bamboo	--
<i>Poa annua</i> L.	Annual Blue Grass	--
<i>Poa compressa</i> L.	Canadian Blue Grass	--
<i>Poa pratensis</i> L.	Kentucky Blue Grass	--
<i>Poa sylvestris</i> A. Gray	Woodland Blue Grass	X
<i>Poa trivialis</i> L.	Rough Blue Grass	--
<i>Schedonorus arundinaceus</i> (Schreb.) Dumort., nom. cons.	Tall Fescue	--
<i>Schedonorus pratensis</i> (Huds.) P. Beauv.	Meadow Fescue	--
<i>Schizachyrium scoparium</i> (Michx.) Nash	Little Bluestem Grass	X
<i>Setaria faberi</i> Herrm.	Giant Foxtail Grass	--
<i>Sorghastrum nutans</i> (L.) Nash	Indian Grass	X
<i>Sorghum halepense</i> (L.) Pers.	Johnson Grass	--
<i>Sphenopholis intermedia</i> (Rydb.) Rydb.	Slender Wedge Grass	X
<i>Sporobolus heterolepis</i> (A. Gray) A. Gray	Northern Dropseed	X
<i>Tridens flavus</i> (L.) Hitchc.	Common Purpletop	X
<i>Zea mays</i> L.	Corn	--
Polemoniaceae (Phlox Family)		
<i>Phlox divaricata</i> L.	Blue Phlox	X
<i>Phlox paniculata</i> L.	Garden Phlox	X
<i>Polemonium reptans</i> L.	Jacob's Ladder	X
Polygonaceae (Buckwheat Family)		
<i>Polygonum aviculare</i> L.	Common Knotweed	--
<i>Polygonum cespitosum</i> Blume var. <i>longisetum</i> (Bruijn) A.N. Steward	Creeping Smartweed	--
<i>Polygonum persicaria</i> L.	Lady's Thumb	--
<i>Polygonum virginianum</i> L.	Virginia Knotweed	X
<i>Polygonum</i> L. (<i>P. hydropiper</i> or <i>P. punctatum</i>)	Smartweed	X
<i>Rumex altissimus</i> Alph. Wood	Pale Dock	X
<i>Rumex crispus</i> L.	Curly Dock	--
<i>Rumex obtusifolius</i> L.	bitter dock	--
Primulaceae (Primrose Family)		
<i>Dodecatheon meadia</i> L.	Shooting Star	X
<i>Lysimachia ciliata</i> L.	Fringed Loosestrife	X
<i>Lysimachia nummularia</i> L.	Moneywort	--

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
Ranunculaceae (Buttercup Family)		
<i>Actaea pachypoda</i> Elliott	Doll's-Eyes	X
<i>Anemone canadensis</i> L.	Meadow Anemone	X
<i>Anemone virginiana</i> L.	Tall Anemone	X
<i>Enemion biternatum</i> Raf.	False Rue Anemone	X
<i>Hepatica nobilis</i> Schreb. var. <i>acuta</i> (Pursh) Steyererm.	Sharp-Lobed Hepatica	X
<i>Ranunculus abortivus</i> L.	Little-Leaf Buttercup	X
<i>Ranunculus recurvatus</i> Poir.	Hooked Buttercup	X
<i>Thalictrum dioicum</i> L.	Early Meadow Rue	X
<i>Thalictrum revolutum</i> DC.	Waxy Meadow Rue	X
Rosaceae (Rose Family)		
<i>Agrimonia pubescens</i> Wallr.	Soft Agrimony	X
<i>Agrimonia rostellata</i> Wallr.	Woodland Agrimony	X
<i>Crataegus mollis</i> Scheele	Downy Hawthorn	X
<i>Crataegus punctata</i> Jacq.	Dotted Hawthorn	X
<i>Duchesnea indica</i> (Andrews) Focke	Indian Strawberry	--
<i>Geum canadense</i> Jacq.	White Avens	X
<i>Geum laciniatum</i> Murray	Rough Avens	X
<i>Geum vernum</i> (Raf.) Torr. & A. Gray	Spring Avens	X
<i>Malus coronaria</i> (L.) Mill.	Wild Sweet Crab	X
<i>Malus pumila</i> Mill.	Apple	--
<i>Potentilla recta</i> L.	Sulfur Cinquefoil	--
<i>Potentilla simplex</i> Michx.	Common Cinquefoil	X
<i>Prunus serotina</i> Ehrh.	Wild Black Cherry	X
<i>Prunus</i> L.	Cherry	--
<i>Pyrus calleryana</i> Decne.	Bradford Pear	--
<i>Rosa multiflora</i> Thunb.	Japanese Rose	--
<i>Rosa setigera</i> Michx.	Illinois Rose	X
<i>Rubus allegheniensis</i> Porter	Common Blackberry	X
<i>Rubus frondosus</i> Bigelow	Velvet Blackberry	X
<i>Rubus occidentalis</i> L.	Black Raspberry	X
<i>Rubus phoenicolasius</i> Maxim.	Wineberry	--
<i>Spiraea ×vanhouttei</i> (Briot) Carrière [<i>cantoniensis</i> × <i>trilobata</i>]	Bridalwreath	--
Rubiaceae (Madder Family)		
<i>Cephalanthus occidentalis</i> L.	Buttonbush	X
<i>Galium aparine</i> L.	Annual Bedstraw	X
<i>Galium circaezans</i> Michx. var. <i>hypomalacum</i> Fernald	Hairy Wild Licorice	X
<i>Galium concinnum</i> Torr. & A. Gray	Shining Bedstraw	X
<i>Galium triflorum</i> Michx.	Sweet-Scented Bedstraw	X
<i>Houstonia longifolia</i> Gaertn.	Long-Leaved Bluets	X
Rutaceae (Rue Family)		
<i>Ptelea trifoliata</i> L. ssp. <i>trifoliata</i> var. <i>trifoliata</i>	Smooth Wafer Ash	X
Salicaceae (Willow Family)		
<i>Populus deltoides</i> W. Bartram ex Marshall	Eastern Cottonwood	X
<i>Salix nigra</i> Marshall	Black Willow	X
<i>Salix ×glatfelteri</i> C.K. Schneid. [<i>amygdaloides</i> × <i>nigra</i>]	Hybrid Black Willow	X
Saururaceae (Lizard's-tail Family)		
<i>Saururus cernuus</i> L.	Lizard's Tail	X
Saxifragaceae (Saxifrage Family)		
<i>Heuchera americana</i> L.	Tall Alumroot	X
<i>Heuchera richardsonii</i> R. Br.	Prairie Alumroot	X

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
<i>Mitella diphylla</i> L.	bishop's cap	X
Scrophulariaceae (Figwort Family) [Orobanchaceae, Plantaginaceae, Phrymaceae, Scrophulariaceae]		
<i>Chelone obliqua</i> L. var. <i>speciosa</i> Pennell & Wherry	Pink Turtlehead	X
<i>Dasistoma macrophylla</i> (Nutt.) Raf.	Mullein Foxglove	X
<i>Mimulus ringens</i> L.	Monkey Flower	X
<i>Penstemon calycosus</i> Small	Smooth Beard Tongue	X
<i>Scrophularia marilandica</i> L.	Late Figwort	X
<i>Verbascum blattaria</i> L.	Moth Mullein	--
<i>Verbascum thapsus</i> L.	Woolly Mullein	--
<i>Veronica arvensis</i> L.	Corn Speedwell	--
<i>Veronica officinalis</i> L.	Common Speedwell	--
<i>Veronica peregrina</i> L. ssp. <i>peregrina</i>	Smooth Purslane Speedwell	X
<i>Veronica serpyllifolia</i> L.	Thyme-Leaved Speedwell	--
Simaroubaceae (Quassia Family)		
<i>Ailanthus altissima</i> (Mill.) Swingle	Tree-of-Heaven	--
Smilacaceae (Catbrier Family)		
<i>Smilax tannoides</i> L.	Bristly Green Brier	X
Solanaceae (Potato Family)		
<i>Datura stramonium</i> L.	Jimsonweed	--
<i>Physalis heterophylla</i> Nees	Clammy Ground Cherry	X
<i>Physalis longifolia</i> Nutt. var. <i>subglabrata</i> (Mack. & Bush) Cronquist	Smooth Ground Cherry	X
<i>Solanum carolinense</i> L.	Horse Nettle	X
<i>Solanum dulcamara</i> L.	Bittersweet Nightshade	--
<i>Solanum ptycanthum</i> Dunal	Black Nightshade	X
Staphyleaceae (Bladdernut Family)		
<i>Staphylea trifolia</i> L.	Bladdernut	X
Tiliaceae (Linden Family) [Malvaceae]		
<i>Tilia americana</i> L. var. <i>americana</i>	American Linden	X
Ulmaceae (Elm Family) [Cannabaceae, Ulmaceae]		
<i>Celtis occidentalis</i> L.	Hackberry	X
<i>Ulmus americana</i> L.	American Elm	X
<i>Ulmus pumila</i> L.	Siberian Elm	--
<i>Ulmus rubra</i> Muhl.	Slippery Elm	X
Urticaceae (Nettle Family)		
<i>Boehmeria cylindrica</i> (L.) Sw.	False Nettle	X
<i>Laportea canadensis</i> (L.) Weddell	Canada Wood Nettle	X
<i>Pilea pumila</i> (L.) A. Gray	Canada Clearweed	X
<i>Urtica dioica</i> L. ssp. <i>gracilis</i> (Aiton) Seland.	Tall Stinging Nettle	X
Valerianaceae (Valerian Family) [Caprifoliaceae]		
<i>Valerianella umbilicata</i> (Sull.) Alph. Wood	Corn Salad	X
Verbenaceae (Verbena Family) [Phrymaceae, Verbenaceae]		
<i>Phryma leptostachya</i> L.	Lopseed	X
<i>Verbena hastata</i> L.	Blue Vervain	X
<i>Verbena stricta</i> Vent.	Hoary Vervain	X
<i>Verbena urticifolia</i> L. var. <i>urticifolia</i>	White Vervain	X

<u>Scientific Name</u>	<u>Common Name</u>	<u>Native</u>
Violaceae (Violet Family)		
<i>Viola arvensis</i> Murray	Wild Pansy	--
<i>Viola cucullata</i> Aiton	Marsh Blue Violet	X
<i>Viola pubescens</i> Aiton	Downy Yellow Violet	X
<i>Viola sororia</i> Willd.	Woolly Blue Violet	X
<i>Viola striata</i> Aiton	Common White Violet	X
<i>Viola tricolor</i> L.	Johnny-Jump-Up	--
Vitaceae (Grape Family)		
<i>Parthenocissus quinquefolia</i> (L.) Planch.	Virginia Creeper	X
<i>Vitis aestivalis</i> Michx.	Summer Grape	X
<i>Vitis labrusca</i> L.	Fox Grape	X
<i>Vitis riparia</i> Michx.	Riverbank Grape	X
<i>Vitis vulpina</i> L.	Frost Grape	X
Total Species	458	
Native Species	336	

Part 2: Scientific name, Coefficient of Conservatism [C], indicator status, potential Hamilton County record [X], and Habitats of Occurrence. (See Figure 1, a map illustrating habitat distribution, which follows Part 2.)

<u>Scientific Name</u>	<u>C</u>	<u>Indicator Status</u>	<u>Potential New Hamilton County Record</u>	<u>Habitat(s)</u>
EQUISETOPHYTES				
Equisetaceae (Horsetail Family)				
<i>Equisetum arvense</i>	1	FAC	--	UF, P&B
<i>Equisetum hyemale</i> var. <i>affine</i>	2	FACW-	X	UF, P&B
PTERIDOPHYTES				
Aspleniaceae (Spleenwort Family)				
<i>Asplenium platyneuron</i>	3	FACU	--	UF
Dryopteridaceae (Wood Fern Family)				
<i>Cystopteris protrusa</i>	4	FACU	--	UF
<i>Polystichum acrostichoides</i>	5	UPL	X	UF
Ophioglossaceae (Adder's-tongue Family)				
<i>Botrychium virginianum</i>	4	FACU	--	UF
Pteridaceae (Maidenhair Fern Family)				
<i>Adiantum pedatum</i>	7	FAC-	--	UF
Thelypteridaceae (Marsh Fern Family)				
<i>Phegopteris hexagonoptera</i>	7	FAC-	X	UF
GYMNOSPERMS				
Cupressaceae (Cypress Family)				
<i>Juniperus virginiana</i>	2	FACU	X	UF, OF&PP, D
Ginkgoaceae (Ginkgo Family)				
<i>Ginkgo biloba</i>	0	UPL	X	UF, D
Pinaceae (Pine Family)				
<i>Picea abies</i>	0	UPL	X	UF
<i>Pinus strobus</i>	5	FAC	X	UF
<i>Tsuga canadensis</i>	10	FACU	X	UF
ANGIOSPERMS				
Acanthaceae (Acanthus Family)				
<i>Ruellia strepens</i>	4	FAC+	--	UF
Aceraceae (Maple Family) [Sapindaceae]				
<i>Acer negundo</i>	1	FACW-	--	UF, RW, HF
<i>Acer platanoides</i>	0	UPL	--	UF
<i>Acer saccharinum</i>	1	FACW	--	UF, RW, EW, OF&PP
<i>Acer saccharum</i> var. <i>saccharum</i>	4	FACU	--	UF, D

<u>Scientific Name</u>	<u>C</u>	<u>Indicator Status</u>	<u>County Record</u>	<u>Habitat(s)</u>
Amaranthaceae (Amaranth Family)				
<i>Amaranthus tuberculatus</i>	1	OBL	--	EW, OF&PP
Anacardiaceae (Sumac Family)				
<i>Rhus glabra</i>	1	UPL	X	OF&PP
<i>Toxicodendron radicans</i>	1	FACU-UPL	--	All except PUF
Annonaceae (Custard-apple Family)				
<i>Asimina triloba</i>	6	FAC	--	UF
Apiaceae (Carrot Family)				
<i>Angelica atropurpurea</i>	6	OBL	--	UF, RW
<i>Conium maculatum</i>	0	FACW	--	OF&PP, P&B
<i>Cryptotaenia canadensis</i>	3	FAC	--	UF, RW
<i>Daucus carota</i>	0	FACU-	--	UF, OF&PP, P&B
<i>Osmorhiza claytonii</i>	3	FACU-	--	UF
<i>Osmorhiza longistylis</i>	3	FACU-	--	UF, OF&PP
<i>Sanicula canadensis</i>	2	FACU+	--	UF
<i>Sanicula odorata</i>	2	FAC+	--	UF, RW
<i>Taenidia integerrima</i>	7	UPL	X	UF
Apocynaceae (Dogbane Family)				
<i>Apocynum cannabinum</i>	2	FAC	--	UF, RW, OF&PP
<i>Vinca minor</i>	0	UPL	--	UF
Araceae (Arum Family)				
<i>Arisaema dracontium</i>	5	FACW	--	UF
<i>Arisaema triphyllum</i>	4	FACW-	--	UF
Araliaceae (Ginseng Family)				
<i>Panax quinquefolius</i>	7	UPL	--	UF
Aristolochiaceae (Birthwort Family)				
<i>Aristolochia serpentaria</i>	8	UPL	--	UF
<i>Asarum canadense</i>	5	UPL	--	UF, RW
Asclepiadaceae (Milkweed Family) [Apocynaceae]				
<i>Asclepias syriaca</i>	1	UPL	--	UF, HF, OF&PP, P&B
<i>Cynanchum laeve</i>	1	FAC	X	OF&PP, P&B
Asteraceae (Aster Family)				
<i>Achillea millefolium</i> L.	0	FACU	--	P&B
<i>Ageratina altissima</i>	2	FACU	--	UF, RW
<i>Ambrosia artemisiifolia</i> var. <i>elatior</i>	0	FACU	--	EW, OF&PP, P&B, D
<i>Ambrosia trifida</i>	0	FAC+	--	UF, RW, EM, OF&PP, P&B
<i>Antennaria plantaginifolia</i>	3	UPL	X	UF
<i>Arctium minus</i>	0	UPL	X	UF, EW, OF&PP, P&B
<i>Artemisia annua</i>	0	FACU	X	UF, RW
<i>Bidens frondosa</i>	1	FACW	--	UF
<i>Bidens</i> (<i>B. connata</i> or <i>B. tripartita</i>)	-	OBL	X	EM
<i>Carduus nutans</i>	0	UPL	--	OF&PP, P&B
<i>Cichorium intybus</i>	0	UPL	--	P&B
<i>Cirsium arvense</i>	0	FACU	--	All except PUF and D
<i>Cirsium discolor</i>	3	UPL	--	OF&PP
<i>Cirsium vulgare</i>	0	FACU-	--	UF, OF&PP

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<i>Conyza canadensis</i>	0	FAC-	--	HF, OF&PP, P&B, D
<i>Echinacea purpurea</i>	6	UPL	X	OF&PP
<i>Erigeron annuus</i>	0	FAC-	--	UF, EW, OF&PP, P&B
<i>Erigeron philadelphicus</i>	3	FACW	X	UF, RW, OF&PP
<i>Eupatorium perfoliatum</i>	4	FACW+	--	UF
<i>Eupatorium serotinum</i>	0	FAC+	X	UF
<i>Eutrochium purpureum</i> var. <i>purpureum</i>	5	FAC	--	UF
<i>Hasteola suaveolens</i>	7	OBL	--	UF
<i>Helianthus</i> (possibly <i>H. decapetalus</i>)	-	FACW-UPL	X	UF
<i>Heliopsis helianthoides</i>	4	UPL	--	OF&PP
<i>Lactuca floridana</i>	5	FAC-	X	UF, RW, OF&PP
<i>Lactuca serriola</i>	0	FAC	--	EW, OF&PP, P&B
<i>Matricaria discoidea</i>	0	FACU	--	P&B
<i>Packera glabella</i>	0	OBL	--	All except HF and EW
<i>Packera obovata</i>	7	FACU-	--	UF
<i>Polymnia canadensis</i>	3	UPL	X	UF
<i>Prenanthes altissima</i>	5	FACU	--	UF, RW
<i>Prenanthes crepidinea</i>	7	FAC+	X	RW
<i>Ratibida pinnata</i>	5	UPL	--	OF&PP
<i>Rudbeckia hirta</i>	2	FACU	X	OF&PP
<i>Rudbeckia laciniata</i>	3	FACW+	--	UF, RW
<i>Rudbeckia subtomentosa</i>	7	FACW	X	OF&PP
<i>Silphium perfoliatum</i>	4	FACW-	--	UF, RW, HF
<i>Solidago altissima</i>	0	FACU	--	UF, EW, OF&PP
<i>Solidago caesia</i>	7	FACU	--	UF
<i>Solidago canadensis</i> var. <i>hargeri</i>	0	FACU	X	UF, HF, OF&PP, P&B
<i>Solidago flexicaulis</i>	6	FACU	--	UF
<i>Solidago gigantea</i>	4	FACW	--	UF, RW
<i>Solidago ulmifolia</i>	5	UPL	--	UF
<i>Sonchus asper</i>	0	FAC	--	EW, OF&PP, P&B
<i>Symphyotrichum cordifolium</i>	5	UPL	--	UF
<i>Symphyotrichum lanceolatum</i>	3	OBL	X	PUF, RW, EW
<i>Symphyotrichum lateriflorum</i>	3	FACW-	X	UF, RW
<i>Symphyotrichum pilosum</i> var. <i>pilosum</i>	0	FACU-	X	OF&PP, P&B
<i>Symphyotrichum shortii</i>	6	UPL	--	UF
<i>Symphyotrichum urophyllum</i>	4	UPL	X	UF
<i>Taraxacum officinale</i>	0	FACU	X	UF, HF, EW, OF&PP, P&B
<i>Tragopogon dubius</i>	0	UPL	--	OF&PP, P&B
<i>Tragopogon lamottei</i>	0	UPL	X	OF&PP, P&B
<i>Verbesina alternifolia</i>	3	FACW	--	UF, RW, HF, EW
<i>Vernonia gigantea</i>	2	FAC	--	UF, EW, OF&PP, P&B
Balsaminaceae (Touch-me-not Family)				
<i>Impatiens capensis</i>	2	FACW	--	UF, RW
<i>Impatiens pallida</i>	4	FACW	X	UF
Berberidaceae (Barberry Family)				
<i>Berberis thunbergii</i>	0	FACU-	X	UF
<i>Podophyllum peltatum</i>	3	FACU	--	UF
Betulaceae (Birch Family)				
<i>Carpinus caroliniana</i> ssp. <i>virginiana</i>	5	FAC	--	UF
<i>Ostrya virginiana</i>	5	FACU-	--	UF

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Bignoniaceae (Trumpet-creeper Family)				
<i>Campsis radicans</i>	1	FAC	--	RW, P&B
<i>Catalpa bignonioides</i>	0	FACU	--	UF, OF&PP
Boraginaceae (Borage Family)				
<i>Hackelia virginiana</i>	0	FAC-	--	UF
<i>Myosotis scorpioides</i>	0	OBL	X	UF
Brassicaceae (Mustard Family)				
<i>Alliaria petiolata</i>	0	FAC	--	UF, RW, OF&PP, P&B
<i>Arabis laevigata</i>	5	UPL	--	UF
<i>Arabis shortii</i>	5	UPL	--	UF
<i>Barbarea vulgaris</i>	0	FAC	--	P&B
<i>Capsella bursa-pastoris</i>	0	FAC-	--	OF&PP
<i>Cardamine pensylvanica</i>	2	FACW+	--	UF
<i>Draba verna</i>	0	UPL	X	OF&PP, P&B
<i>Hesperis matronalis</i>	0	UPL	--	RW
<i>Iodanthus pinnatifidus</i>	6	FACW	--	UF, RW
<i>Lepidium campestre</i>	0	UPL	--	EW
<i>Lepidium virginicum</i>	0	FACU-	--	OF&PP, P&B
<i>Nasturtium officinale</i>	0	OBL	--	UF, EW
<i>Rorippa palustris</i> ssp. <i>fernaldiana</i>	2	OBL	X	UF
<i>Rorippa sessiliflora</i>	3	OBL	--	EW, OF&PP
<i>Sisymbrium officinale</i>	0	UPL	--	OF&PP, P&B
<i>Thlaspi arvense</i>	0	UPL	--	OF&PP, P&B
Campanulaceae (Bellflower Family)				
<i>Campanulastrum americanum</i>	4	FAC	--	UF
<i>Lobelia inflata</i>	3	FACU-	--	UF
<i>Lobelia siphilitica</i>	3	FACW+	--	PUF
<i>Triodanis perfoliata</i>	2	FAC	--	UF, OF&PP, P&B
Caprifoliaceae (Honeysuckle Family)				
<i>Lonicera japonica</i>	0	FACU	--	UF
<i>Lonicera maackii</i>	0	UPL	--	OF&PP
<i>Lonicera tatarica</i>	0	FACU	X	UF
<i>Lonicera</i>	0	UPL	X	UF
<i>Sambucus nigra</i> ssp. <i>canadensis</i>	2	FACU-	--	UF, RW, HF, EW, P&B
<i>Symphoricarpos orbiculatus</i>	1	FACU	X	UF
<i>Viburnum opulus</i> var. <i>opulus</i>	0	FAC	--	UF
<i>Viburnum prunifolium</i>	4	FACU	--	UF
<i>Viburnum recognitum</i>	0	FACW-	X	UF, OF&PP
Caryophyllaceae (Pink Family)				
<i>Arenaria serpyllifolia</i>	0	FAC	X	OF&PP, P&B
<i>Cerastium pumilum</i>	0	UPL	X	P&B
<i>Saponaria officinalis</i>	0	FACU	X	P&B
<i>Silene antirrhina</i>	0	UPL	--	OF&PP
<i>Silene latifolia</i> ssp. <i>alba</i>	0	UPL	X	OF&PP
<i>Silene stellata</i>	5	UPL	--	UF
<i>Silene virginica</i>	7	UPL	--	UF
<i>Stellaria media</i>	0	FACU	--	UF, OF&PP, P&B
<i>Stellaria pubera</i>	7	UPL	--	UF

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Celastraceae (Bittersweet Family)				
<i>Celastrus orbiculatus</i>	0	UPL	--	UF, P&B
<i>Euonymus alatus</i>	0	UPL	X	UF, RW
<i>Euonymus fortunei</i>	0	UPL	X	UF, RW
Ceratophyllaceae (Hornwort Family)				
<i>Ceratophyllum demersum</i>	1	OBL	X	PUF
Chenopodiaceae (Goosefoot Family) [Amaranthaceae]				
<i>Chenopodium album</i>	0	FAC-	X	OF&PP, P&B
Clusiaceae (Mangosteen Family) [Hypericaceae]				
<i>Hypericum punctatum</i>	3	FAC+	--	UF
Commelinaceae (Spiderwort Family)				
<i>Tradescantia subaspera</i>	4	UPL	X	UF
<i>Tradescantia virginiana</i>	7	UPL	X	UF
Convolvulaceae (Morning-glory Family)				
<i>Calystegia sepium</i>	1	FAC	--	UF, RW, HF, P&B
<i>Convolvulus arvensis</i>	0	UPL	--	P&B, D
<i>Ipomoea pandurata</i>	3	FACU	--	UF, RW, HF, OF&PP, P&B
Cornaceae (Dogwood Family)				
<i>Cornus drummondii</i>	2	FAC	--	UF, RW, OF&PP, P&B
<i>Cornus florida</i>	4	FACU-	--	UF
<i>Nyssa sylvatica</i>	5	UPL	X	UF
Crassulaceae (Stonecrop Family)				
<i>Sedum ternatum</i>	8	UPL	--	UF
Cuscutaceae (Dodder Family) [Convolvulaceae]				
<i>Cuscuta gronovii</i>	2	FACW	--	UF
Cyperaceae (Sedge Family)				
<i>Carex aggregata</i>	2	UPL	X	UF, RW, HF, P&B
<i>Carex albicans</i> var. <i>albicans</i>	6	UPL	--	UF
<i>Carex albursina</i>	7	UPL	X	UF
<i>Carex amphibola</i>	8	FAC+	X	UF, RW
<i>Carex blanda</i>	1	FAC	--	UF, RW, P&B
<i>Carex careyana</i>	9	UPL	X	UF
<i>Carex cephalophora</i>	3	FACU	X	UF
<i>Carex communis</i>	8	UPL	--	UF
<i>Carex conjuncta</i>	6	FACW	X	UF, EW
<i>Carex davisii</i>	3	FAC+	--	UF, RW, HF, EW, P&B
<i>Carex frankii</i>	2	OBL	--	UF, EW
<i>Carex granularis</i>	2	FACW+	X	UF, EW
<i>Carex grayi</i>	5	FACW+	--	UF, RW
<i>Carex grisea</i>	3	UPL	X	UF, RW, EW, P&B
<i>Carex hirtifolia</i>	5	UPL	--	UF
<i>Carex hitchcockiana</i>	8	UPL	X	UF
<i>Carex jamesii</i>	4	UPL	--	UF, RW
<i>Carex laevivaginata</i>	7	OBL	X	PUF
<i>Carex laxiculmis</i> var. <i>copulata</i>	5	UPL	X	UF

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<i>Carex laxiflora</i>	7	FAC	--	UF
<i>Carex leavenworthii</i>	1	UPL	X	RW, P&B
<i>Carex lurida</i>	4	OBL	--	PUF, EW
<i>Carex molesta</i>	2	FAC	--	UF, EW, OF&PP
<i>Carex normalis</i>	3	FACW	X	UF, RW, EW, P&B
<i>Carex oligocarpa</i>	8	UPL	X	UF
<i>Carex pennsylvanica</i>	5	UPL	X	UF
<i>Carex radiata</i>	4	FACU	X	UF
<i>Carex rosea</i>	5	UPL	--	UF
<i>Carex shortiana</i>	3	FACW+	X	UF
<i>Carex sparganioides</i>	4	FAC	--	UF
<i>Carex stipata</i> var. <i>stipata</i>	2	OBL	--	UF
<i>Carex swanii</i>	4	FACU	X	UF
<i>Carex vulpinoidea</i>	2	OBL	--	UF, EW
<i>Carex woodii</i>	8	FAC	X	UF
<i>Cyperus esculentus</i> var. <i>leptostachyus</i>	0	FACW	--	OF&PP
<i>Eleocharis acicularis</i>	2	OBL	X	UF
<i>Eleocharis erythropoda</i>	2	OBL	--	RW, EW
<i>Schoenoplectus tabernaemontani</i>	4	OBL	--	EW
<i>Scirpus atrovirens</i>	4	OBL	--	EW
<i>Scirpus pendulus</i>	2	OBL	--	EW
Dipsacaceae (Teasel Family) [Caprifoliaceae]				
<i>Dipsacus fullonum</i>	0	UPL	--	UF
Ebenaceae (Ebony Family)				
<i>Diospyros virginiana</i>	2	FAC	X	P&B
Elaeagnaceae (Oleaster Family)				
<i>Elaeagnus umbellata</i>	0	FACU	--	OF&PP
Euphorbiaceae (Spurge Family)				
<i>Acalypha rhomboidea</i>	0	FACU	--	UF, EW
<i>Euphorbia corollata</i>	4	UPL	--	OF&PP
Fabaceae (Pea Family)				
<i>Astragalus canadensis</i>	9	FAC+	X	OF&PP
<i>Cercis canadensis</i>	3	FACU	--	UF, RW, D
<i>Chamaecrista fasciculata</i>	2	FACU-	--	OF&PP
<i>Chamaecrista nictitans</i>	2	FACU-	X	OF&PP
<i>Dalea candida</i>	10	UPL	X	OF&PP
<i>Dalea purpurea</i>	10	UPL	X	OF&PP
<i>Desmanthus illinoensis</i>	3	FAC-	X	OF&PP
<i>Gleditsia triacanthos</i>	1	FAC	--	UF, RW, OF&PP
<i>Lotus corniculatus</i>	0	FAC-	--	OF&PP
<i>Medicago lupulina</i>	0	FAC-	--	UF, OF&PP, P&B
<i>Medicago sativa</i> ssp. <i>sativa</i>	0	UPL	--	OF&PP, P&B
<i>Melilotus albus</i>	0	FACU	--	P&B
<i>Melilotus officinalis</i>	0	FACU	--	OF&PP, P&B
<i>Securigera varia</i>	0	UPL	--	P&B
<i>Trifolium campestre</i>	0	UPL	X	OF&PP, D
<i>Trifolium dubium</i>	0	FACU	X	OF&PP
<i>Trifolium hybridum</i>	0	FAC-	X	OF&PP
<i>Trifolium pratense</i>	0	FACU+	X	OF&PP, P&B
<i>Trifolium repens</i>	0	FACU+	X	HF, OF&PP, P&B, D

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Fagaceae (Beech Family)				
<i>Fagus grandifolia</i>	8	FACU	X	UF
<i>Quercus alba</i>	5	FACU	--	UF
<i>Quercus macrocarpa</i>	5	FAC-	X	UF, P&B
<i>Quercus muehlenbergii</i>	4	UPL	--	UF, RW
<i>Quercus rubra</i>	4	FACU	--	UF
<i>Quercus velutina</i>	4	UPL	X	UF
Fumariaceae (Fumitory Family) [Papaveraceae]				
<i>Dicentra cucullaria</i>	6	UPL	X	UF
Geraniaceae (Geranium Family)				
<i>Geranium carolinianum</i>	2	UPL	--	OF&PP, P&B
<i>Geranium maculatum</i>	4	FACU	--	UF
Grossulariaceae (Currant Family)				
<i>Ribes cynosbati</i>	4	UPL	--	UF
Hamamelidaceae (Witch-hazel Family) [Altingiaceae]				
<i>Liquidambar styraciflua</i>	4	FACW	X	UF
Hippocastanaceae (Horse-chestnut Family) [Sapindaceae]				
<i>Aesculus glabra</i>	5	FAC+	--	UF, RW, D
Hydrangeaceae (Hydrangea Family)				
<i>Hydrangea arborescens</i>	7	FACU-	--	UF
Hydrophyllaceae (Waterleaf Family)				
<i>Hydrophyllum macrophyllum</i> Nutt.	7	UPL	--	UF
<i>Hydrophyllum virginianum</i>	4	FACW-	--	UF
Iridaceae (Iris Family)				
<i>Iris germanica</i> L.	0	UPL	--	UF
<i>Sisyrinchium angustifolium</i>	3	FACW-	X	UF
Juglandaceae (Walnut Family)				
<i>Carya cordiformis</i>	5	FAC	--	UF
<i>Carya laciniosa</i>	8	FACW	--	UF
<i>Carya ovalis</i>	4	FACU	--	UF
<i>Carya ovata</i>	4	FACU	--	UF, D
<i>Juglans nigra</i>	2	FACU	--	UF, RW, P&B
Juncaceae (Rush Family)				
<i>Juncus dudleyi</i>	2	FAC	--	EW
<i>Juncus tenuis</i>	0	FAC	--	UF, OF&PP
<i>Luzula multiflora</i>	6	FACU	X	UF
Lamiaceae (Mint Family)				
<i>Agastache nepetoides</i>	4	FACU	--	UF, RW
<i>Collinsonia canadensis</i>	8	FAC	--	UF
<i>Glechoma hederacea</i>	0	FACU	--	UF, HF, D
<i>Lamium amplexicaule</i>	0	UPL	--	OF&PP
<i>Lamium purpureum</i>	0	UPL	--	OF&PP
<i>Leonurus cardiaca</i>	0	UPL	X	RW, P&B
<i>Lycopus americanus</i>	3	OBL	--	UF, EW

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<i>Mentha spicata</i>	0	FACW+	--	UF
<i>Nepeta cataria</i>	0	FAC-	--	P&B
<i>Scutellaria incana</i>	4	UPL	--	UF
<i>Scutellaria nervosa</i>	5	FAC	X	UF
<i>Scutellaria ovata</i>	7	FACU	X	UF
<i>Stachys tenuifolia</i>	4	OBL	--	PUF, RW
<i>Teucrium canadense</i>	3	FACW-	--	UF, HF
Lauraceae (Laurel Family)				
<i>Lindera benzoin</i>	5	OBL	--	UF
<i>Sassafras albidum</i>	1	FACU	--	UF, D
Lemnaceae (Duckweed Family) [Araceae]				
<i>Lemna minor</i>	3	OBL	X	PUF
<i>Spirodela polyrrhiza</i>	5	OBL	X	PUF
<i>Wolffia columbiana</i>	5	OBL	X	PUF
Liliaceae (Lily Family) [Alliaceae, Agavaceae, Colchicaceae, Hemerocallidaceae, Melanthiaceae, Ruscaceae]				
<i>Allium canadense</i>	1	FACU	--	UF, RW
<i>Allium burdickii</i>	6	FACU+	X	UF
<i>Camassia scilloides</i>	5	FAC+	--	UF
<i>Hemerocallis fulva</i>	0	UPL	X	UF
<i>Maianthemum racemosum</i>	4	FACU	--	UF, RW
<i>Polygonatum biflorum</i> var. <i>biflorum</i>	4	FACU	--	UF, P&B
<i>Polygonatum biflorum</i> var. <i>commutatum</i>	4	FACU	--	UF, P&B
<i>Trillium recurvatum</i>	4	FACU-	--	UF
<i>Trillium sessile</i>	4	FACU-	X	UF
<i>Trillium</i> L. (<i>T. flexipes</i> or <i>T. grandiflorum</i>)	-	FAC--UPL	X	UF
<i>Uvularia grandiflora</i>	7	UPL	--	UF
<i>Veratrum woodii</i>	7	UPL	--	UF
Magnoliaceae (Magnolia Family)				
<i>Liriodendron tulipifera</i>	4	FACU+	--	UF
Malvaceae (Mallow Family)				
<i>Abutilon theophrasti</i>	0	FACU-	--	OF&PP
<i>Malva neglecta</i>	0	UPL	X	P&B
Menispermaceae (Moonseed Family)				
<i>Menispermum canadense</i>	3	FAC+	--	UF, RW, P&B
Moraceae (Mulberry Family)				
<i>Morus alba</i>	0	FAC	--	RW, OF&PP, P&B
<i>Morus rubra</i>	4	FAC-	--	UF
Nyctaginaceae (Four O'clock Family)				
<i>Mirabilis nyctaginea</i>	0	UPL	--	OF&PP, P&B
Oleaceae (Olive Family)				
<i>Fraxinus americana</i>	4	FACU	--	UF, RW, OF&PP
<i>Fraxinus pennsylvanica</i> var. <i>lanceolata</i>	1	FAC	--	UF, RW
<i>Fraxinus quadrangulata</i>	7	UPL	--	UF
<i>Ligustrum obtusifolium</i>	0	UPL	--	UF
<i>Ligustrum vulgare</i>	0	UPL	X	UF, RW

<u>Scientific Name</u>	<u>C</u>	<u>Indicator Status</u>	<u>County Record</u>	<u>Habitat(s)</u>
Onagraceae (Evening Primrose Family)				
<i>Circaea lutetiana</i> ssp. <i>canadensis</i>	2	FACU	X	UF
<i>Epilobium coloratum</i>	3	OBL	--	UF, EW
<i>Oenothera biennis</i>	0	FACU	--	OF&PP, P&B
Orchidaceae (Orchid Family)				
<i>Liparis liliifolia</i>	3	FACU-	X	UF
Orobanchaceae (Broom-rape Family)				
<i>Epifagus virginiana</i>	8	UPL	--	UF
Oxalidaceae (Wood-sorrel Family)				
<i>Oxalis stricta</i>	0	FACU	--	All except PUF and EW
Paeoniaceae (Peony Family)				
<i>Paeonia</i>	0	UPL	X	UF
Papaveraceae (Poppy Family)				
<i>Papaver orientale</i>	0	UPL	X	OF&PP
<i>Sanguinaria canadensis</i>	5	FACU-	--	UF
<i>Stylophorum diphyllum</i>	7	UPL	--	UF
Phytolaccaceae (Pokeweed Family)				
<i>Phytolacca americana</i>	0	FAC-	--	UF, RW, OF&PP, P&B, D
Plantaginaceae (Plantain Family)				
<i>Plantago lanceolata</i>	0	FAC	X	HF, OF&PP, P&B
<i>Plantago rugelii</i>	0	FAC	--	UF, RW, P&B, D
Platanaceae (Plane-tree Family)				
<i>Platanus occidentalis</i>	3	FACW	X	UF, HF, OF&PP, D
Poaceae (Grass Family)				
<i>Alopecurus carolinianus</i>	0	FACW	X	OF&PP
<i>Andropogon gerardii</i>	5	FAC-	X	OF&PP
<i>Andropogon virginicus</i>	1	FAC-	X	OF&PP
<i>Bouteloua curtipendula</i>	7	UPL	X	OF&PP
<i>Brachyelytrum erectum</i>	6	UPL	--	UF
<i>Bromus arvensis</i>	0	FACU	--	UF OF&PP
<i>Bromus inermis</i>	0	UPL	--	RW, HF, OF&PP, P&B, D
<i>Bromus pubescens</i>	4	FACU+	--	UF
<i>Bromus racemosus</i>	0	UPL	--	OF&PP, P&B
<i>Bromus tectorum</i>	0	UPL	--	OF&PP, P&B
<i>Cinna arundinacea</i>	4	FACW	--	UF
<i>Dactylis glomerata</i>	0	FACU	--	UF, RW, OF&PP, P&B
<i>Danthonia spicata</i>	3	UPL	X	UF
<i>Diarrhena americana</i>	5	FACW	--	UF
<i>Dichanthelium acuminatum</i> var. <i>fasciculatum</i>	2	UPL	--	UF
<i>Dichanthelium latifolium</i>	6	FACU	X	UF
<i>Elymus canadensis</i>	5	FAC-	--	OF&PP
<i>Elymus hystrix</i>	5	UPL	--	UF
<i>Elymus macgregorii</i>	3	FACW-	X	UF
<i>Elymus repens</i>	0	FACU	--	OF&PP, P&B
<i>Elymus villosus</i>	4	FACU	--	UF
<i>Elymus virginicus</i>	3	FACW-	--	UF, RW, OF&PP
<i>Festuca ovina</i>	0	UPL	X	UF

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<i>Festuca subverticillata</i>	4	FACU+	--	UF, RW
<i>Glyceria striata</i>	4	OBL	--	UF, EW
<i>Hordeum jubatum</i>	0	FAC+	--	OF&PP
<i>Leersia oryzoides</i>	2	OBL	X	PUF, EW
<i>Leersia virginica</i>	4	FACW	--	UF, RW
<i>Lolium perenne</i>	0	FACU	X	UF, OF&PP, D
<i>Muhlenbergia frondosa</i>	3	FACW	--	UF
<i>Muhlenbergia schreberi</i>	0	FAC	--	UF
<i>Phalaris arundinacea</i>	0	FACW+	--	UF, RW, HF, EW, OF&PP
<i>Phleum pratense</i>	0	FACU	--	OF&PP
<i>Phyllostachys aurea</i>	0	UPL	X	RW
<i>Poa annua</i>	0	FAC-	X	UF
<i>Poa compressa</i>	0	FACU+	--	UF, EW
<i>Poa pratensis</i>	0	FAC-	--	UF, HF, OF&PP, P&B, D
<i>Poa sylvestris</i>	5	FAC	--	UF, PUF, RW
<i>Poa trivialis</i>	0	FACW	X	UF
<i>Schedonorus arundinaceus</i>	0	FACU+	X	UF, EW, OF&PP, P&B
<i>Schedonorus pratensis</i>	0	FACU-	--	OF&PP
<i>Schizachyrium scoparium</i>	4	FACU-	X	OF&PP
<i>Setaria faberi</i>	0	FACU+	--	OF&PP
<i>Sorghastrum nutans</i>	4	FACU+	X	OF&PP
<i>Sorghum halepense</i>	0	FACU	--	OF&PP
<i>Sphenopholis intermedia</i>	3	FAC	--	UF
<i>Sporobolus heterolepis</i>	10	FACU-	X	OF&PP
<i>Tridens flavus</i>	1	UPL	--	P&B
<i>Zea mays</i>	0	UPL	--	P&B
Polemoniaceae (Phlox Family)				
<i>Phlox divaricata</i>	5	FACU	--	UF
<i>Phlox paniculata</i>	3	FACU	--	UF
<i>Polemonium reptans</i>	5	FAC	--	UF
Polygonaceae (Buckwheat Family)				
<i>Polygonum aviculare</i>	0	FAC-	X	UF, P&B
<i>Polygonum cespitosum</i> var. <i>longisetum</i>	0	UPL	X	UF
<i>Polygonum persicaria</i>	0	FACW	--	P&B
<i>Polygonum virginianum</i>	3	FAC	--	UF, RW
<i>Polygonum</i> (<i>P. hydropiper</i> or <i>P. punctatum</i>)	-	OBL	--	UF, EW
<i>Rumex altissimus</i>	2	FACU-	X	EW
<i>Rumex crispus</i>	0	FAC+	--	UF, HF, OF&PP, P&B
<i>Rumex obtusifolius</i>	0	FACW	X	UF, P&B
Primulaceae (Primrose Family)				
<i>Dodecatheon meadia</i>	7	FACU	X	UF
<i>Lysimachia ciliata</i>	4	FACW	--	UF
<i>Lysimachia nummularia</i>	0	FACW+	--	UF, RW, P&B
Ranunculaceae (Buttercup Family)				
<i>Actaea pachypoda</i>	7	UPL	--	UF, PUF
<i>Anemone canadensis</i>	4	FACW	--	HF
<i>Anemone virginiana</i>	4	UPL	--	UF
<i>Enemion biternatum</i>	5	FAC	--	UF
<i>Hepatica nobilis</i> var. <i>acuta</i>	8	UPL	--	UF
<i>Ranunculus abortivus</i>	0	FACW-	--	UF, RW, OF&PP
<i>Ranunculus recurvatus</i>	5	FACW	--	UF
<i>Thalictrum dioicum</i>	7	FACU+	--	UF

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<i>Thalictrum revolutum</i>	5	FAC	--	RW, P&B
Rosaceae (Rose Family)				
<i>Agrimonia pubescens</i>	5	UPL	--	UF
<i>Agrimonia rostellata</i>	5	FACU	--	UF
<i>Crataegus mollis</i>	2	FACW-	--	RW, EW
<i>Crataegus punctata</i>	2	UPL	--	UF
<i>Duchesnea indica</i>	0	FACU-	--	UF, OF&PP
<i>Geum canadense</i>	1	FAC	--	UF, PUF
<i>Geum laciniatum</i>	3	FACW	--	RW
<i>Geum vernum</i>	1	FAC-	--	UF, EW
<i>Malus coronaria</i>	5	FACU	--	UF
<i>Malus pumila</i>	0	UPL	X	UF, OF&PP, P&B
<i>Potentilla recta</i>	0	UPL	--	OF&PP, P&B
<i>Potentilla simplex</i>	2	FACU-	--	UF
<i>Prunus serotina</i>	1	FACU	--	UF, OF&PP
<i>Prunus</i>	0	UPL	X	UF
<i>Pyrus calleryana</i>	0	UPL	X	UF, OF&PP, P&B
<i>Rosa multiflora</i>	0	FACU	--	UF, RW, OF&PP
<i>Rosa setigera</i>	4	FACU+	--	UF
<i>Rubus allegheniensis</i>	2	FACU+	X	UF
<i>Rubus frondosus</i>	4	FACU+	X	UF
<i>Rubus occidentalis</i>	1	FACU	--	UF, RW, OF&PP
<i>Rubus phoenicolasius</i>	0	UPL	X	UF
<i>Spiraea</i> × <i>vanhouttei</i> [<i>cantoniensis</i> × <i>trilobata</i>]	0	UPL	X	UF
Rubiaceae (Madder Family)				
<i>Cephalanthus occidentalis</i>	5	OBL	X	UF
<i>Galium aparine</i>	1	FACU	--	UF, RW, OF&PP
<i>Galium circaezans</i> var. <i>hypomalacum</i>	5	UPL	--	UF
<i>Galium concinnum</i>	5	FACU	X	UF
<i>Galium triflorum</i>	5	FACU+	X	UF
<i>Houstonia longifolia</i>	7	UPL	X	UF
Rutaceae (Rue Family)				
<i>Ptelea trifoliata</i> ssp. <i>trifoliata</i> var. <i>trifoliata</i>	4	FACU+	--	P&B
Salicaceae (Willow Family)				
<i>Populus deltoides</i>	1	FAC+	X	UF, HF, EW, OF&PP
<i>Salix nigra</i>	3	OBL	--	UF, RW, HF
<i>Salix</i> × <i>glatfelteri</i> [<i>amygdaloides</i> × <i>nigra</i>]	4	OBL	X	UF
Saururaceae (Lizard's-tail Family)				
<i>Saururus cernuus</i>	4	OBL	X	UF, RW
Saxifragaceae (Saxifrage Family)				
<i>Heuchera americana</i>	7	FACU-	X	UF
<i>Heuchera richardsonii</i>	8	FAC-	X	UF
<i>Mitella diphylla</i>	7	FACU+	--	UF
Scrophulariaceae (Figwort Family) [Orobanchaceae, Plantaginaceae, Phrymaceae, Scrophulariaceae]				
<i>Chelone obliqua</i> var. <i>speciosa</i>	8	OBL	--	UF
<i>Dasistoma macrophylla</i>	5	FACU-	--	UF
<i>Mimulus ringens</i>	4	OBL	--	UF, EW
<i>Penstemon calycosus</i>	4	FACU	--	UF
<i>Scrophularia marilandica</i>	5	FACU-	--	UF

<u>Scientific Name</u>	<u>C</u>	<u>Indicator Status</u>	<u>County Record</u>	<u>Habitat(s)</u>
<i>Verbascum blattaria</i>	0	FACU-	--	OF&PP, P&B
<i>Verbascum thapsus</i>	0	UPL	--	UF, OF&PP, P&B
<i>Veronica arvensis</i>	0	UPL	X	UF, OF&PP, P&B, D
<i>Veronica officinalis</i>	0	UPL	--	UF
<i>Veronica peregrina</i> ssp. <i>peregrina</i>	0	FACW+	--	OF&PP, P&B
<i>Veronica serpyllifolia</i>	0	FACW	--	UF
Simaroubaceae (Quassia Family)				
<i>Ailanthus altissima</i>	0	UPL	--	UF, RW, P&B
Smilacaceae (Catbrier Family)				
<i>Smilax tamnoides</i>	3	FAC	--	UF, RW
Solanaceae (Potato Family)				
<i>Datura stramonium</i>	0	FACU-	--	P&B
<i>Physalis heterophylla</i>	3	UPL	--	UF, P&B
<i>Physalis longifolia</i> var. <i>subglabrata</i>	0	UPL	--	OF&PP
<i>Solanum carolinense</i>	0	FACU-	--	OF&PP, P&B
<i>Solanum dulcamara</i>	0	FAC	--	EW, P&B
<i>Solanum ptycanthum</i>	0	FACU-	--	EW, OF&PP
Staphyleaceae (Bladdernut Family)				
<i>Staphylea trifolia</i>	5	FAC	--	UF, RW
Tiliaceae (Linden Family) [Malvaceae]				
<i>Tilia americana</i> var. <i>americana</i>	5	FACU	--	UF
Ulmaceae (Elm Family) [Cannabaceae, Ulmaceae]				
<i>Celtis occidentalis</i>	3	FAC-	--	UF, OF&PP, P&B
<i>Ulmus americana</i>	3	FACW-	--	UF, RW, OF&PP
<i>Ulmus pumila</i>	0	UPL	--	RW, OF&PP, P&B
<i>Ulmus rubra</i>	3	FAC	--	UF, PUF, RW
Urticaceae (Nettle Family)				
<i>Boehmeria cylindrica</i>	3	OBL	--	PUF
<i>Laportea canadensis</i>	2	FACW	--	UF, RW
<i>Pilea pumila</i>	2	FACW	--	UF, EW
<i>Urtica dioica</i> ssp. <i>gracilis</i>	1	FAC+	--	UF, RW, EW, P&B
Valerianaceae (Valerian Family) [Caprifoliaceae]				
<i>Valerianella umbilicata</i>	5	FACW	--	P&B
Verbenaceae (Verbena Family) [Phrymaceae, Verbenaceae]				
<i>Phryma leptostachya</i>	4	UPL	--	UF
<i>Verbena hastata</i>	3	FACW+	--	EW, OF&PP
<i>Verbena stricta</i>	4	UPL	--	OF&PP
<i>Verbena urticifolia</i> var. <i>urticifolia</i>	3	FAC+	--	UF, EW
Violaceae (Violet Family)				
<i>Viola arvensis</i>	0	UPL	X	P&B
<i>Viola cucullata</i>	9	OBL	--	UF
<i>Viola pubescens</i>	5	FACU-	--	UF
<i>Viola sororia</i>	1	FAC-	--	UF, RW
<i>Viola striata</i>	4	FACW	--	UF
<i>Viola tricolor</i>	0	UPL	X	OF&PP

<u>Scientific Name</u>	<u>C</u>	<u>Indicator Status</u>	<u>County Record</u>	<u>Habitat(s)</u>
Vitaceae (Grape Family)				
<i>Parthenocissus quinquefolia</i>	2	FAC-	--	UF, RW, OF&PP, P&B, D
<i>Vitis aestivalis</i>	4	FACU	X	UF
<i>Vitis labrusca</i>	6	FACU	X	RW
<i>Vitis riparia</i>	1	FACW-	--	UF, HF, OF&PP, P&B
<i>Vitis vulpina</i>	3	FACW-	--	UF, RW, OF&PP, P&B
Mean C	2.8			
Native Mean C	3.8			
FQI	60.0			
Native FQI	70.0			

Collecting Methods & Effort

Meander surveys following the methods of Goff et al. (1982) were conducted. Approximately 108.75 person-hours were spent conducting the survey. Additional time was spent identifying unknown plants in the laboratory.

Species of Conservation Concern

- *Carex woodii* Dewey [State Watch List] – rare in upland forest.
- *Chamaecrista nictitans* (L.) Moench [State Watch List] – uncommon in prairie planting; likely part of installed seed mix.
- *Chelone obliqua* L. var. *speciosa* Pennell & Wherry [State Watch List] – rare in seepage along stream through upland forest.
- *Panax quinquefolius* L. [State Watch List] – uncommon in upland forest at south end of site.
- *Pinus strobus* L. [State Rare] – rare in upland forest; likely planted or an escape from planting.
- *Prenanthes crepidinea* Michx. [State Watch List] – one individual observed in riverine woods along the White River.
- *Veratrum woodii* J.W. Robbins ex Alph. Wood [State Watch List] – uncommon on bluff and steep slope along the White River at south end of site.
- *Viola pubescens* Aiton [State Watch List] – rare in upland forest.

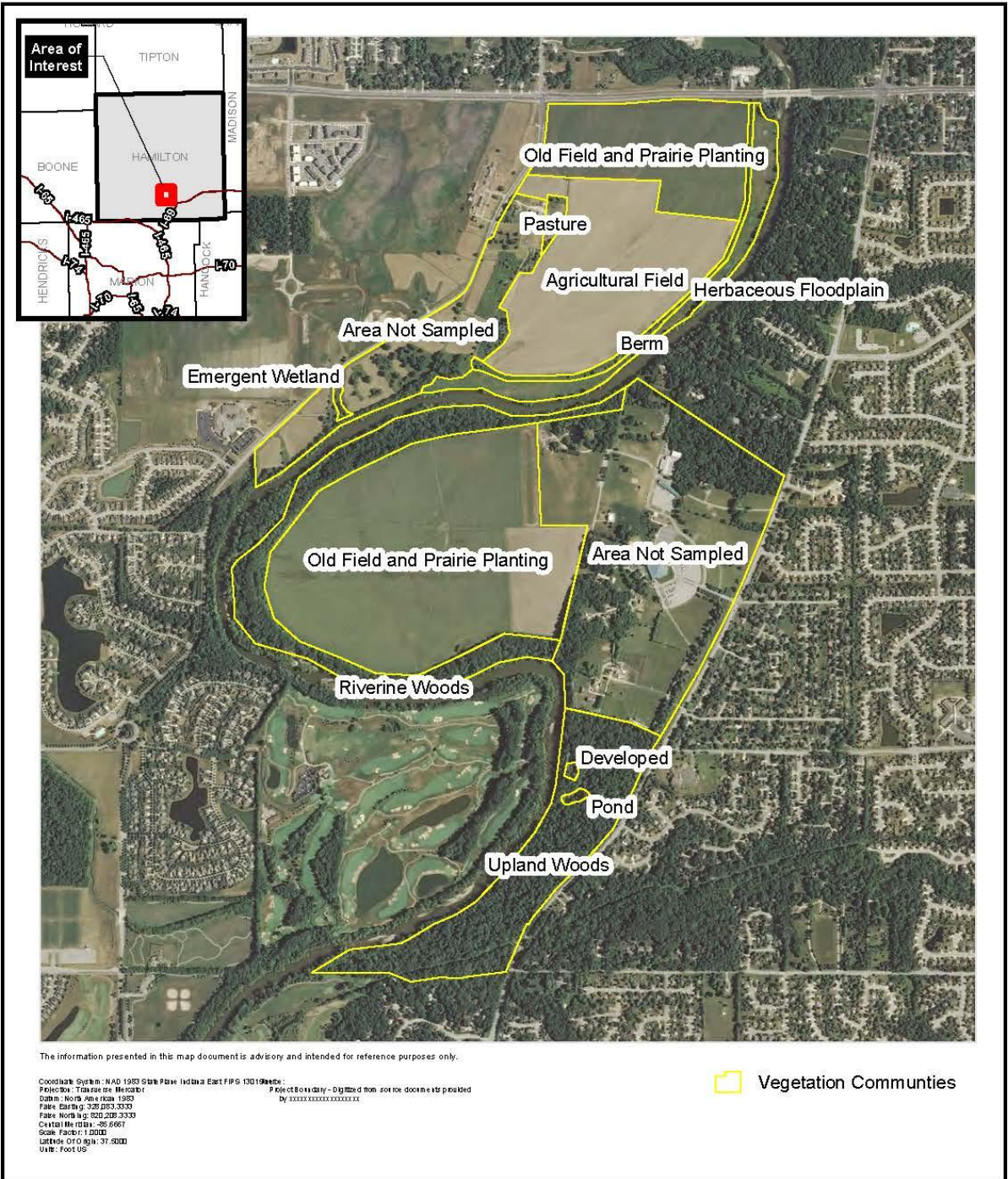
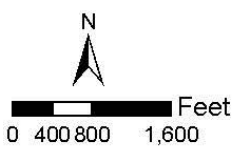


Figure 1: Site Map
Conner Prairie BioBlitz 2013
Vascular Plant Inventory Areas
Hamilton County, Indiana
 (Fishers Quad)
 June 2013



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See Part 2 for potential Hamilton County, Indiana, records. Potential records were determined by review of known county occurrences (Kartesz, BONAP 2013; USDA, NRCS 2013) and records from Friesner Herbarium at Butler University (BUT).

Summary Overview

A total of 458 vascular plant taxa (451 identified to at least the species level), 336 (73%) of which are native to Indiana, were observed during the two-day Conner Prairie BioBlitz (Table 1). The vascular plant families represented by the most taxa were the Aster Family (Asteraceae, 55 taxa), the Grass Family (Poaceae, 49 taxa) and the Sedge Family (Cyperaceae, 40 taxa); the Sedge genus (*Carex*) was the best represented genus, with 34 taxa observed. A total of 150 potentially new species for Hamilton County, Indiana, were found. Eight species on the list of Indiana Endangered, Threatened, Rare and Watch List species were noted: Wood's Stiff Sedge (*Carex woodii* Dewey [State Watch List]); Wild Sensitive Plant (*Chamaecrista nictitans* (L.) Moench [State Watch List]); Pink Turtlehead (*Chelone obliqua* L. var. *speciosa* Pennell & Wherry [State Watch List]); Ginseng (*Panax quinquefolius* L. [State Watch List]); White Pine (*Pinus strobus* L. [State Rare]); Great White Lettuce (*Prenanthes crepidinea* Michx. [State Watch List]); False Hellebore (*Veratrum woodii* J.W. Robbins ex Alph. Wood [State Watch List]); and Downy Yellow Violet (*Viola pubescens* Aiton [State Watch List]); plants listed as Watch List have enough known occurrences to have been removed from the Endangered, Threatened and Rare list and are no longer actively tracked by the Indiana Department of Natural Resources – Division of Nature Preserves. The White Pine (state rare) observed on the site was likely planted or an escape from a planting. The Wild Sensitive Plant (state watch list) observed on the site was likely introduced in the prairie creation seed mix.

The vascular plant communities at Conner Prairie consisted primarily of old field and planted tallgrass prairie (Figure 1). Agricultural field and developed/cultural areas also made up a large percentage of the property (Figure 1). Smaller portions of the property were comprised of upland forest, a pond in the upland forest, riverine woods, herbaceous floodplain, emergent wetland and pasture (Figure 1). With the exception of the upland forest and riverine woods, the plant communities at Conner Prairie were dominated by common early successional and disturbance-tolerant plant species. The riverine woods consisted of a mix of species common in floodplain communities in central Indiana, with few clear dominant species. The richest and most interesting plant community observed on the property was the Sugar Maple (*Acer saccharum* Marshall ssp. *saccharum*) dominated upland forest located at the south end of the site. This is supported by the upland forest mean Coefficient of Conservatism (C) value of 3.3 and Floristic Quality Index (FQI) of 58.9. Areas with FQI values of 45 or greater are thought to possess natural area potential, though sites with mean C values less than 3.5 are not (Swink & Wilhelm 1994). In particular, the bluff above the White River and the adjacent steep slope provided unique habitat where several conservative plant species were observed. Shallow ravines and seepages along streams in the upland forest also were of interest. Overall, the mean C value calculated for the compiled inventory at Conner Prairie was 2.8, and the FQI was 60.0.

Numerous invasive species were identified at Conner Prairie. In the upland forest, invasive species of most concern included Tree-of-Heaven (*Ailanthus altissima* (Mill.) Swingle, rare), Garlic Mustard (*Alliaria petiolata* (M. Bieb.) Cavara & Grande, uncommon), Oriental Bittersweet (*Celastrus orbiculata* Thunb., uncommon), Winged Euonymus (*Euonymus alata* (Thunb.) Siebold, rare), Border Privet (*Ligustrum obtusifolium* Siebold & Zucc., uncommon), Common Privet (*Ligustrum vulgare* L., uncommon), Japanese Honeysuckle (*Lonicera japonica* Thunb., uncommon), Amur Honeysuckle (*Lonicera maackii* (Rupr.) Herder, uncommon), Honeysuckle (*Lonicera* L., uncommon), Reed Canary Grass (*Phalaris arundinacea* L., locally common/abundant), Multiflora Rose (*Rosa multiflora* Thunb., uncommon) and Common Periwinkle (*Vinca minor* L., locally common/abundant). Invasive species of most concern in the riverine woods included Tree-of-Heaven (rare), Garlic Mustard (common), Hungarian Brome (*Bromus inermis* Leyss., common), Winged Euonymus (uncommon), Dame's Rocket (*Hesperis matronalis* L., rare), Common Privet (rare), Reed Canary Grass (common), Golden Bamboo (*Phyllostachys aurea* Carrière ex A. Rivière & C. Rivière, locally common/abundant) and Multiflora Rose (uncommon). Hungarian Brome (common), Field Thistle (*Cirsium arvense* (L.) Scop., common) and Reed Canary Grass (abundant) posed the greatest ecological threat in the herbaceous floodplain area. Reed Canary Grass (uncommon) was of most concern in the emergent wetland community. Invasive species of concern in the old field/planted prairie areas included Hungarian Brome (locally common/abundant), Musk Bristle Thistle (*Carduus nutans* L., uncommon), Field Thistle (locally common/abundant), Bull Thistle (*Cirsium vulgare* (Savi) Ten., uncommon), Poison Hemlock (*Conium maculatum* L., rare), Autumn Olive (*Elaeagnus umbellata* Thunb., rare), Quack Grass (*Elymus repens* (L.) Gould, locally common/abundant), Yellow Sweet Clover (*Melilotus officinalis* (L.) Lam., uncommon), Reed Canary Grass (rare), Bradford Pear (*Pyrus calleryana* Decne., locally common/abundant), Multiflora Rose (rare) and Johnson Grass (*Sorghum halepense* (L.) Pers., common). Many of these same invasive species were observed in the pasture area, and although this area has no resemblance to a natural community, invasive species here provide a seed source for infestation into natural communities.

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For additional information reported by the Vascular Plant Team, see the Excel File named "Conner Prairie 2013 BioBlitz Vascular Plant Data" on the Indiana Academy of Science Webpage [under Events, then Bioblitz Archive]. The IAS webpage can be reached at <http://www.indianaacademyofscience.org>.

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Silene virginica, Fire Pink. Photo by Scott Namestnik.



Veratrum woodii, False Hellebore. Photo by Nick Harby.

**Conner Prairie Biodiversity Survey 2013
Scientists, Naturalists, Students, and Staff Volunteers**

Participants

Team

Boyce, Jennifer	Birds
Brattain, Michael	Beetles (Coleoptera)
Brodman, Robert*	Amphibians & Reptiles
Burnette, Curt	Vascular Plants
Davis-Swinford, Brittany*	Spiders
DeSmet, Willy	Vascular Plants
Eggleston, Krysta	Birds, Vascular Plants
Enochs, Scott	Birds
Gorney, Don*	Birds, Butterflies
Gramhofer, Megan	Amphibians & Reptiles
Harby, Nick	Vascular Plants
Hathaway, Stephanie	Beetles (Coleoptera)
Heikens, Alice	Vascular Plants
Hess, Ben	Vascular Plants
Hobbs, Collin	Vascular Plants
Holland, Jeffrey*	Beetles (Coleoptera)
Horton, Jim	Amphibians & Reptiles
Lima, Abigail	Vascular Plants
Marrs, Rick	Amphibians & Reptiles
Marsh, Anastasia	Amphibians & Reptiles
McMurray, Paul*	Aquatic Macroinvertebrates
Members of the Hooiser Mushroom Society	Mushrooms
Members of the Hoosier Herp Society	Amphibians & Reptiles
Murphy, Bill*	Snail-killing Flies
Namestnik, Scott*	Vascular Plants, Singing Insects
Osland, Greg	Birds
Payton Kellenbuger	Amphibians & Reptiles
Powell, Gareth	Beetles (Coleoptera)
Rice, Tim	Birds
Rominger, Aidan	Birds

Roth, Kirk*	Butterflies, Birds
Rothrock, Paul	Vascular Plants
Ruch, Don	Vascular Plants, Mushrooms
Russell, Stephen*	Mushrooms
Shafer, Dave	Birds
Sickler, Maggie	Mushrooms
Smith, Megan	Vascular Plants
Stang, Carl*	Singing Insects
Thada, Adam	Vascular Plants
Thomas, Bert	Birds
Tungesvick, Kevin	Vascular Plants
Turnbow, Robert	Beetles (Coleoptera)
Williams, Marty	Birds

* Denotes a team leader.

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