2008. Proceedings of the Indiana Academy of Science 117(2):142–158

THE VASCULAR FLORA AND VEGETATIONAL COMMUNITIES OF THE WETLAND COMPLEX ON THE IMI PROPERTY IN HENRY COUNTY, NEAR LURAY, INDIANA

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ABSTRACT. An inventory of the vascular flora occurring in the IMI wetland complex near Luray, Indiana, reveals 287 species and varieties representing 180 genera in 79 families. The 12 families containing 58% of the species are Asteraceae, Poaceae, Cyperaceae, Rosaceae, Apiaceae, Fabaceae, Lamiaceae, Polygonaceae, Caprifoliaceae, Liliaceae, Ranunculaceae, and Scrophulariaceae. Of the documented flora, 246 are native, 41 are adventives, and 20 represent Henry County records. Of the 287 species, 63 are woody, 162 are herbaceous forbs and vines, 55 are grasses and sedges, and 7 are ferns and their allies. The Floristic Quality Index for the native species is 61.9 and for all species, native plus exotics, is 57.3. The mean Coefficient of Conservatism for the native species is 3.9 and for all species, native plus exotics, is 3.4. These numbers suggest that the site is of nature preserve quality and that the site contains noteworthy remnants of the region's natural heritage. The numbers also suggest that the adventives are having a minimal negative impact on the native flora. The flora includes two rare species (*Spiranthes lucida* and *Triglochin palustre*) and four species on the watch list (*Carex leptalea*, *Filipendula rubra*, *Hydrastis canadensis*, and *Selaginella apoda*). Based on hydrology and topography, the major community types (dry border and field, sedge meadows, fens, mesic woodlands, dry woodlands, wet meadow, and creek and creek bank) are described.

Keywords: Henry County Indiana, fens, sedge meadows, county records–vascular plants, Floristic Quality Index (FQI), plant communities, flora–Indiana

This study of the wetland complex on the IMI property near Luray, Indiana, was undertaken as part of our continuing effort to study the flora and floral communities of east-central Indiana. As defined by the U.S. Fish and Wildlife Service, wetlands are "lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water.... Wetlands must have one or more of the following three attributes: 1) at least periodically, the land supports predominantly hydrophytes; 2) the substrate is predominantly undrained hydric soil; and 3) the soil is saturated with or covered by shallow water at some time during the growing season of each year" (Cowardin et al. 1979). This study concentrated on the first parameter used to define wetlands, namely the presence of hydrophytes.

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When investigating the flora and floral communities of a site that has not previously been studied, an inventory is the simplest means to document species diversity and to identify plants of special concern. It is also the necessary first step in developing any long-term resource management plan and is a fundamental step in monitoring changes that may occur in species composition over time (Magurran 1988). Given the severity of anthropogenic disturbance near the site, e.g., the quarry operations have bordered the entire western side of the wetland complex, a list of floral resources is necessary. As such, the goals of this study were to inventory the naturally-occurring vascular flora for the entire wetland complex, to visually estimate the distribution and relative abundance of each species, and to describe seasonal changes in vegetation based primarily on phenology. It should be noted that the current study is the initial step of a larger project examining the response of vegetation to chemical and hydrological gradients.

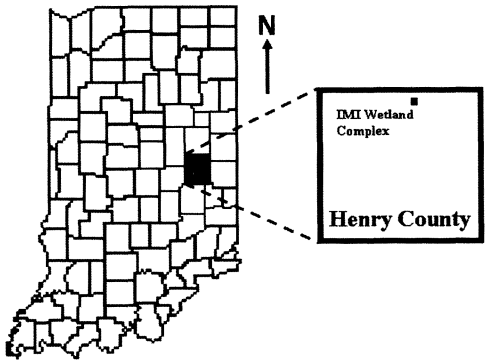

Figure 1.—Map of Indiana (left) showing the location of Henry County and the location of the IMI wetland complex within the county (right).

THE STUDY AREA

The IMI wetland complex is an approximately 2.5 ha plot located in northern Henry County, Indiana (Fig. 1). The site lies about 1 km southwest of the town of Luray and approximately 0.8 km east of State Road 3. The latitude and longitude for the point of entrance into the site (Fig. 2) are 40°3′46.78″N and 85°21′40.20″W. The property is bordered on the south, the west, and the northwest by IMI, Inc., on the east by Brave Run, a creek which flows north (the creek is bordered on the east by private property), and on the northeast corner by private property. The private property along Brave Run and in the northeast is primarily woodlands.

The study site contains a variety of natural habitats (Fig. 2). The wetland habitats include the creek bank and creek on the entire east side, a freshwater meadow along the northern border, a large seep leading into a fairly large, but low quality fen running from the southwest corner through the southern section of the site, two quality calcareous fens with marl runs, and based on vegetation, two distinct sedge meadows, one to the east of the centrally-located mesic woods and the other to the west of the mesic woods. There are several woodland types on the property. The centrally-located mesic woods ranges from a very open to a completely closed canopy and the soil moisture throughout the year ranges from wet to very moist to dry. None of the woody vegetation in the mesic woods is over 10 m tall. On the east side, Brave Run flows through a moist to very moist woodlands, as the water from the site flows towards the creek. On the west and southwest

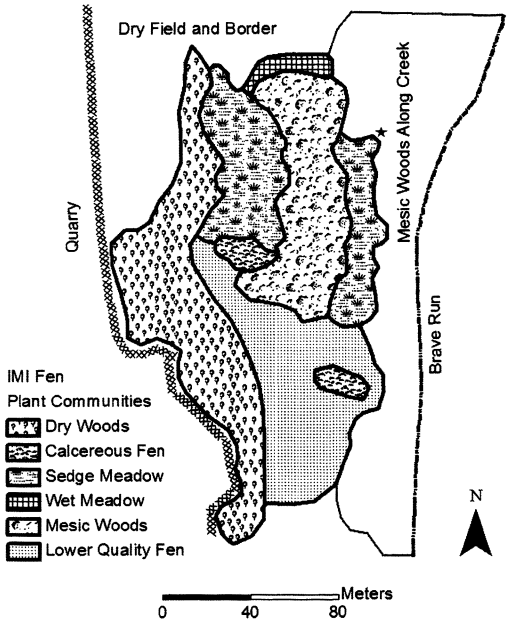

Figure 2.—Diagram illustrating the distribution of the major habitat types in the IMI wetland complex near Luray, Indiana. The star marks the entrance point into the complex as given by the latitude and longitude coordinates in the Study Area section.

border there is a dry forest. Part of this woodland sets on a slope dropping approximately 2 m. The entire site slopes from west to east, dropping approximately 6–7 m.

The site lies in the southern section of the Tipton Till Plain region of the Central Till Plain (Homoya et al. 1985). It occurs in the Upper White Watershed (USGS Cataloging Unit 05120201). The creek (Brave Run) running on the east side of the complex empties into Buck Creek which, in turn, empties into the White River near Muncie.

According to the Web Soil Survey (WSS 2008) and Hillis & Neely (1986), the soils at the IMI wetland complex are Eldean silt loam and Eldean clay loam, both characterized as being well-drained. However, the soils at the site are not well-drained and include "inclusions" of a different soil in the map unit. According to Hugh Brown, Department of Natural Resources and Environmental Management at Ball State University, all the actual soils on a site can't be mapped at the scale of soil survey (usually 12,000:1). The fact that these are outwash soils with much sand and gravel is

probably what allows for groundwater discharge hydrology associated with the fen. There are some poorly-drained outwash soils, e.g., the Westland Series, which would more accurately describe the soils at the site (Brown pers. commun.).

METHODS

During the 2004 and 2005 growing seasons, approximately one foray per week was made into the study area. Forays were random but efforts were made to cover all areas. Voucher specimens for each species observed were collected and deposited in the Ball State University Herbarium (BSUH). Notes on vegetation consisted of species lists with visual estimates of their abundance (see catalog of vascular plants, Appendix 1). Additionally, seasonal changes in the dominant vegetation, based on phenology, were noted for the various habitats. Nomenclature follows the USDA Plants Database (USDA 2008). The floristic quality index (FQI) for the site was determined using the program developed by the Conservation Research Institution (Wilhelm & Masters 2000) in conjunction with Rothrock (2004).

RESULTS

The catalog of the vascular flora documented at the IMI wetland complex is listed in Appendix 1. Examination of the list reveals that a total of 287 species was collected representing 180 genera from 79 families. Thirty-six families are represented by only one species each. Four families, Asteraceae (37 spp.), Cyperaceae (27 spp.), Poaceae (28 spp.), and Rosaceae (17 spp.), contained 109 (38%) of the species documented. Fifty-eight percent of the species occur in only 12 families, e.g., Apiaceae (8 spp.), Caprifoliaceae (7 spp.), Fabaceae (8 spp.), Lamiaceae (8 spp.), Liliaceae (6 spp.), Polygonaceae (8 spp.), Ranunculaceae (6 spp.), and Scrophulariaceae (6 spp.), plus the four listed above.

A physiognomic analysis of the flora discloses that of the 287 species documented, 246 (85.7%) are native and 41 (14.3%) are exotic (adventive) (Appendix 1). Of the 246 native species, 54 species are woody (trees, shrubs, and vines), 141 species are herbaceous forbs and vines, 44 species are graminoids, and 7 are ferns and their allies. Of the 41 adventive species, 9 species are woody (trees, shrubs, and vines), 21 are forbs, and 11 are grasses. The Floristic Quality Indices (FQI), Coefficients of Conservatism (C), and Wetland Indicator Status (W) for all species are shown in Table 1. The average W for all species from all habitats is −0.3 or an average rating of Fac (+).

Table 1.—Floristic Quality summary. C_{av} is the mean Coefficient of Conservatism, FQI is the Floristic Quality Index, and W_{av} is the mean Wetland Indicator Status.

	Count	C_{av}	FQI	W_{av}
Native species	246	3.9	61.9	−0.7
Total species	287	3.4	57.3	−0.3

Of the 287 species documented, 11 have a Coefficient of Conservatism of 10, including *Carex buxbaumii*, *C. cryptolepis*, *Eleocharis elliptica*, *Lobelia kalmii*, *Muhlenbergia glomerata*, *Parnassia glauca*, *Ranunculus hispidus* var. *caricetorum*, *Rhynchospora capillacea*, *Solidago uliginosa*, *Spiranthes lucida*, and *Triglochin palustris*. Seven species have C values of 9, including *Carex sterilis*, *C. tetanica*, *Dasiphora fruticosa* var. *floribunda*, *Filipendula rubra*, *Lysimachia quadriflora*, *Solidago riddellii*, and *Viola cucullata*. Six species have C values of 8, including *Aureolaria virginica*, *Carex leptalea*, *Phlox maculata*, *Rudbeckia fulgida* var. *sullivantii*, *Solidago patula*, and *Symplocarpus foetidus*. Additionally, 13 species have C = 7.

Based upon the Indiana Natural Heritage Data Center's records for Henry County and the plants reported at Wilbur Wright Fish and Wildlife Area (Ruch et al. 2002), 20 species documented at the wetland complex represent Henry County records. Lastly, using the list on the Divisions of Nature Preserves, Indiana Department of Natural Resources website (2007), the status of several plants at the IMI wetland complex is as follows: Rare: *Spiranthes lucida* and *Triglochin palustre*; Watch List: *Filipendula rubra*, *Hydrastis canadensis*, and *Selaginella apoda*.

HABITAT DESCRIPTIONS

Dry border and field.—This habitat was dominated by typical field species. Only a limited number, including *Cichorium intybus*, *Medicago sativa* (planted), *Phleum pratense*, and *Symphyotrichum novae-angliae* were common to abundant. Some frequently-occurring species include *Apocynum cannabinum*, *Ambrosia artemisiifolia*, *Bromus arvensis*, *Cirsium* spp., *Elymus repens*, *Eupatorium serotinum*, *Hyper-*

icum spp., *Polygonum virginianum*, *Teucrium canadense*, *Trifolium* spp., and *Symphyotrichum pilosum*.

Sedge meadows.—Sedge meadows are dominated by sedges, with grasses and rushes present. Other herbaceous forbs are usually present but only as scattered individuals. Soils are typically organic deposits (peat) and remain saturated throughout the growing season. Based on the dominant vegetation, the wetland complex at IMI has two different sedge meadows. The west sedge meadow lies upslope and west of the centrally located mesic woods; the east sedge meadow lies down slope and east of the wood. The ESM is dominated by *Carex sterilis*. Other sedges present only or primarily in this sedge meadow include *Carex cryptolepis* and *C. shortiana*. Additional sedge species present include *C. buxbaumii*, *C. leptalea*, *C. pellita*, *C. stricta*, *C. tetanica*, and *Eleocharis* spp. The east sedge meadow has a greater biodiversity of herbaceous forb species. Herbaceous species occurring only in this site include *Asclepias incarnata*, *Galium asprellum*, *Iris virginica* var. *shrevei*, *Oligoneuron riddellii*, *Packera aurea*, *Phlox maculata*, *Rudbeckia fulgida* var. *speciosa*, *Spiranthes lucida*, *Symphyotrichum dumosum*, *Symplocarpus foetidus*, and *Viola cucullata*. *Lythrum alatum* was photographed in this sedge meadow in the mid-1990s but was not found during this study.

The west sedge meadow is dominated by *Carex stricta*. There is less diversity among herbaceous species. Herbaceous plants occurring only in this sedge meadow include *Chelone glabra*, *Eupatoriadelphus maculatus*, and *Typha latifolia*. Herbaceous plants occurring in both sedge meadows include *Agalinis purpurea*, *Eupatorium perfoliatum*, *Filipendula rubra*, *Galium triflorum*, *Lobelia kalmii*, *Lysimachia quadriflora*, *Monarda fistulosa*, *Oxypolis rigidior*, *Pedicularis lanceolata*, *Pilea fontana*, *Pycnanthemum virginianum*, *Rudbeckia hirta* var. *pulcherrima*, *Solidago patula*, *S. uliginosa*, *Symphyotrichum firmum*, *S. puniceum*, *Thelypteris palustris* var. *pubescens*, and *Verbena hastata*. Shrubs in both sedge meadows include *Dasiphora fruticosa* and *Salix petiolaris*. Grasses present in both sedge meadows include *Andropogon gerardii*, *Muhlenbergia glomerata*, *Muhlenbergia mexicana*, *Schizachyrium scoparium*, and *Sorghastrum nutans*.

Fens.—Fens are peatlands where organic material accumulates near the soil surface (Gorham 1991). They are also minerotrophic ecosystems receiving nutrients from groundwater discharge and surface water flow, as well as from precipitation (Mitsch & Gosselink 2000). Based on topography and morphology, the fens at IMI are classified as slope fens since underground water first comes to the surface and then flows from a higher elevation to a lower elevation (The Nature Conservancy 2002). There are two separate marl runs, each with a steady flow of groundwater rich in calcium and magnesium bicarbonates. These calcareous fens are surrounded by sedge meadows, seeps, and lower quality fens. Most of the plants occurring in the fens are the same as those described for the sedge meadows. However, there are a few plants that occur only or primarily in these calcareous fens, including *Juncus brachycephalus*, *Parnassia glauca*, *Rhynchospora capillacea*, *Selaginella apoda*, *Triglochin palustre*, and *Zizia aurea*. Most of these plants are extreme calciphiles. In the southwestern corner and southern end of the study area, there is a large seep and lower quality fen that is dominated by *Carex stricta*, *Impatiens capensis*, *Symphyotrichum puniceum*, *Thelypteris palustris*, *Solidago patula*, *Symplocarpus foetidus*, *Eupatoriadelphus maculatus*, and *Cardamine bulbosa*.

Centrally-located mesic woods.—Surrounded by various wetlands, the soil of the mesic woodland is moist to dry depending on the time of year. Although covered by trees, none of the trees are taller than 8 m tall. The soil layer, which is less than 1 m deep throughout this habitat, covers a deposit of glacial gravel. Throughout this habitat there are some open areas. Some of the tree and shrub species encountered are *Acer saccharum*, *Celtis occidentalis*, *Cornus drummondii*, *Crataegus mollis*, *Fraxinus americana*, *Ligustrum obtusifolium*, *Lindera benzoin*, *Malus coronaria*, *Rhamnus lanceolata* ssp. *glabrata*, *Ulmus* spp., and *Viburnum lentago*. Additionally, there is a colony of *Toxicodendron rydbergii* at the northern end. The woody vines occurring here include *Humulus lupulus* var. *lupuloides* and *Parthenocissus vitacea*. Herbaceous species occurring in the woody areas include *Agrimonia pubescens*, *Anemone virginiana*, *Claytonia virginica*, *Cryptotaenia canadensis*, *Elymus villosus*, *Galium concinnum*, *Geum canadense*, *Hydrastis canadensis*, *Lactuca floridana*, and *Phryma leptostachya*. Herbaceous species and grami-

noids occurring in the open areas of this habitat include *Agrimonia parviflora*, *Agrostis gigantea*, *Carex blanda*, *Carex granularis*, *Carex vulpinoidea*, *Desmodium canadense*, *Elymus virginicus*, *Equisetum arvense*, *Juncus dudleyi*, *Leersia virginica*, *Lobelia inflata*, *L. siphilitica*, *Monarda fistulosa*, *Poa compressa*, *Rudbeckia fulgida* var. *speciosa*, *Scirpus pendulus*, *Symplocarpus foetidus*, and *Viola sororia*.

Dry woodlands.—The habitat is populated by species common to woodlands in east-central Indiana. The most frequently-encountered trees include *Acer saccharum*, *Carpinus caroliniana*, *Carya cordiformis*, *Celtis occidentalis*, *Crataegus mollis*, *Fraxinus* spp., *Juglans nigra*, and *Ulmus rubra*. The most commonly-encountered shrubs and woody vines are *Humulus lupulus*, *Parthenocissus quinquefolia*, *Rosa setigera*, *Smilax* spp., *Toxicodendron radicans*, *Viburnum prunifolium*, and *Vitis* spp. The more frequently-encountered herbs, herbaceous vines, and graminoids are *Allium burdickii*, *Arisaema triphyllum*, *Campanulastrum americanum*, *Cardamine concatenata*, *Carex albursina*, *C. rosea*, *Circaea lutetiana*, *Cryptotaenia canadensis*, *Dioscorea villosa*, *Galium circaezans*, *Menispermum canadense*, *Polygonum virginianum*, *P. scandens*, *Phryma leptostachya*, *Symphyotrichum cordifolium*, *S. lateriflorum*, *Sanguinaria canadensis*, *Sanicula* spp., *Trillium sessile*, and *Viola* spp.

Wet meadow.—Wet meadows are grasslands with waterlogged soil near the surface but without standing water for part or most of the year. Although a number of sedges were common (including *Carex frankii*, *C. laevivaginata*, *C. hystericina*, *C. stipata*, *C. vulpinoidea*, *Cyperus strigosus*, and *Scirpus pendulus*), this habitat was dominated by grasses, especially *Agrostis gigantea* and *Leersia oryzoides*. Common herbaceous species include *Agrimonia parviflora*, *Calystegia sepium*, *Dipsacus fullonum* ssp. *sylvestris*, *Epilobium coloratum*, *Equisetum hyemale* var. *affine*, *Galium triflorum*, *Heliopsis helianthoides*, *Lycopus uniflorus*, *Polygonum punctatum* var. *confertiflorum*, *Rubus allegheniensis*, and *Vernonia gigantea*. Woody species growing along the edge of the wet meadow include *Salix eriocephala*, *Salix nigra*, and *Sambucus nigra* ssp. *canadensis*.

Creek bank and woodlands on the east side.—Water from the wetland complex drains into the creek that runs along the entire east side of the complex. The wetland complex has a downward slope from west to east, dropping approximately 6–7 m. The creek runs to the north and eventually empties into Buck Creek which, in turn, flows into the West Fork of the White River. (The IMI wetland complex lies in the Upper White Watershed [USGS Hydrologic Cataloging Code 05120201].) Tree and shrub species specific to the creek corridor include *Betula nigra*, *Carya ovata*, *Ribes cynosbati*, *Quercus macrocarpa*, *Q. muhlenbergii*, and *Taxodium distichum* (planted). Herbaceous and fern species occurring only in this habitat include *Apios americana*, *Arisaema dracontium*, *Botrychium* spp., *Bidens coronata*, *Blephilia hirsuta*, *Floerkea proserpinacoides*, *Impatiens pallida*, *Osmorhiza longistylis*, *Polemonium reptans*, *Polygonatum biflorum*, *Polygonum cespitosum* var. *longisetum*, *Ranunculus abortivus*, *Ranunculus hispidus* var. *caricetorum*, *Silene virginica*, *Stellaria media*, *Symphyotrichum cordifolium*, *S. lanceolatum*, *Valerianella umbilicata*, *Verbesina alternifolia*, and *Veronica anagallis-aquatica*. Grasses and sedges that occur only in this habitat include *Carex grisea*, *Cinna arundinacea*, *Dichanthelium acuminatum*, *Festuca subverticillata*, and *Poa trivialis*.

EXOTICS

Of the 41 exotics documented at the site, 35 occur in the dry woods on the west and south sides, the drier portions of the mesic woods in the center of the site, in the woods along the creek on the east side, or in the dry border and field on the west and northwest sides. Only six exotic species occur in the wetlands. *Agrostis gigantea* and *Dipsacus fullonum* occur in the open mesic woods and wet meadow on the north, *Prunella vulgaris* occurs in the *Carex sterilis* dominated sedge meadow east of the central mesic woods, *Rumex obtusifolius* and *Solanum dulcamara* occur in the large seep and lower quality fen in the southwest corner of the site, and *Schedonorus arundinaceus* occurs in the marl run of the calcareous fen west of the central mesic woods. Except for *A. gigantea*, which was abundant, and *P. vulgaris*, which was infrequent, the remaining exotic species were rare.

DISCUSSION

The vascular flora at the IMI wetland complex includes the same core of plants, and consequently plant families, reported for other

sites in east central Indiana (Rothrock et al. 1993; Rothrock 1997; Ruch et al. 1998, 2002, 2004, 2007, 2008; Stonehouse et al. 2003). However, due to the fens and sedge meadows at IMI, grasses and sedges composed a higher percentage of the species, about 20%, when compared to the other sites. The 12 plant families, accounting for more than 50% of the plants reported at IMI and all the sites referred to above, are the Apiaceae, Asteraceae, Brassicaceae, Caprifoliaceae, Cyperaceae, Fabaceae, Lamiaceae, Liliaceae, Poaceae, Polygonaceae, Ranunculaceae, and Rosaceae.

The floristic quality index (FQI) for the native flora at the IMI wetland complex was 61.9, with a means coefficient of conservatism (C_{av}) of 3.9 (Table 1). These numbers indicate that the site contains noteworthy remnants of a region's natural heritage. However, as Rothrock & Homoya (2005) have noted, the best quality reference sites in central Indiana have C_{av} ranging from 3.8–4.1. The C_{av} for the IMI site falls within this range. However, it was somewhat surprising that the C_{av} was not higher since 24 species (about 9.7% of the native species) had a coefficient of conservation of 8 or higher (Appendix 1). On the other hand, the site also contained an inordinate number of native plants with low C values, that is, 120 species (about 48.8% of the native species) had a coefficient of conservation of 3 or lower (Appendix 1). Rothrock & Homoya (2005) suggested that central Indiana natural areas have a limited number of species from the highest fidelity categories for unspecified "historical or innate biological reasons." It is suggested that one important reason for the low number of these quality plants is due to the isolation of pristine or near-pristine habitats resulting from intense anthropogenic activities in the region, especially agriculture and urbanization.

The FQI and C_{av} for all species, both native and adventives, provide additional information about the flora at the IMI wetland complex. The FQI for all species is 57.3, or only 4.6 units lower than the FQI for native species alone. Likewise, for all species, including adventives, the C_{av} is 3.4, compared to a C_{av} of 3.9 for native species alone. Rothrock & Homoya (2005) have suggested that natural quality of an area is compromised when adventive diversity lowers C_{av} by more than 0.7 units. Based on the numbers for IMI, it appears that the exotics are having only a minimal negative impact on the native species. Of the 41 exotic species documented, only six actually occurred in the wetland habitats. Four were rare; only *Agrostis gigantea* was abundant (found in the wet meadow) and *Prunella vulgaris* was infrequent. The remaining 35 exotic species occurred in the dry woods and field along the western border of the site.

As a wetland complex containing fens in east-central Indiana, the IMI site should be rated as good to very good. In addition to a number of high-quality fen species, the site did contain two rare state listed species and three species on the state watch list. However, when compared to the remarkable Cabin Creek Raised Bog (fen) in Randolph County, or to the high-quality fens found in the northern tier of counties in Indiana, the lower quality of the fens at IMI easily becomes apparent.

ACKNOWLEDGMENTS

The authors wish to thank the Indiana Academy of Science and both the Office of Academic Research and Sponsored Programs and the Department of Biology at Ball State University for financial support of this research project. We also wish to thank Kevin Tungesvick for allowing us to join his IMI project and allowing us access to the site. We also wish to express our appreciation to the management of the IMI facility at Luray, Indiana, for allowing us to conduct this research. Lastly, we express our sincere gratitude to Ball State University students Michelle Lemons, Jamie Lau, Erica Saginus, and Carissa Pierson for their invaluable assistance in the herbarium.

Note: Appendix starts on the following page.

APPENDIX 1

CATALOG OF VASCULAR FLORA AT THE IMI FEN
(arranged alphabetically by family)

Listed are voucher specimens for all naturally occurring species observed at IMI Fen, Henry County, Indiana. Nomenclature follows the USDA Plants Database (USDA 2008). Each species report contains the following information: (1) current scientific name based on the USDA Plants Database; (2) current taxonomic synonyms, if appropriate; (3) common name(s), based primarily on Gleason & Cronquist (1991), Swink & Wilhelm (1994), and Yatskievych (2000); (4) typical habitat(s) within the study site; (5) a visual estimate of its relative abundance; (6) the coefficient of conservatism (C-value) for Indiana (Rothrock 2004); and (7) the Ball State University Herbarium (BSUH) number(s).

Due to the small size of the study site, our standard definitions of relative abundance were modified as follows: rare = a low number of plants occurring at one to two sites; infrequent = occasional, not widespread throughout its potential habitats, but may be locally abundant at one or two sites; frequent = common throughout its potential habitats and may be locally abundant at one or more sites; and abundant = common and numerous throughout its potential habitats.

The symbols in parentheses immediately preceding each species refer to the following: * = naturalized, non-native (exotic) species, # = Henry County record, and z = not found in current study but reported earlier at the site and photographed. Species were deemed unreported for Henry County (and hence considered a county record) if they did not appear in the computer database of Keller et al. (1984) or reported from Wilbur Wright Fish and Wildlife Area (Ruch et al. 2002). (The database of Keller et al. (1984) is the same list of plants for Henry County as the one from the Indiana Natural Heritage Data Center, IDNR.).

The status categories of certain species in brackets (e.g., [Endangered] [Rare], [Threatened], and [Watch List]) was determined using the list on the Divisions of Nature Preserves, Indiana Department of Natural Resources website (2007).

DIVISION LYCOPODIOPHYTA
(Lycopods)
Selaginellaceae (Spike Moss Family)

Selaginella apoda (L.) Spring; Meadow Spikemoss, Marsh Club Moss; Calcareous fen and sedge meadows; Rare to infrequent; C = 4; BSUH 13707, 13882. [Watch List]

DIVISION EQUISETOPHYTA
(Horsetails or Scouring Rushes)
Equisetaceae (Horsetail Family)

Equisetum arvense L.; Common or Field Horsetail; Sedge meadow and central mesic woods; Infrequent to common; C = 1; BSUH 13654, 13905.

Equisetum hyemale L. var. *affine* (Engelm.) A.A. Eaton; Common or Tall Scouring Rush; Sedge Meadow on northeast side; Common; C = 2; BSUH 13658.

DIVISION PTERIDOPHYTA
(Ferns)
Aspleniaceae (Spleenwort Family)

Asplenium platyneuron (L.) B.S.P.; Ebony Spleenwort; Dry woods south end; Rare; C = 3; BSUH 13605.

Ophioglossaceae (Adder's Tongue Family)

Botrychium dissectum Spreng. var. *obliquum* (Muhl.) Clute; Lace-Frond Grape Fern, Bronze Fern; Woods along creek east side; Rare; C = 3; BSUH 13950.

Botrychium virginianum (L.) Swartz; Rattlesnake Fern; Woods along creek east side; Rare; C = 4; BSUH 13640.

Thelypteridaceae (Marsh Fern Family)

Thelypteris palustris Schott var. *pubescens* (G. Lawson) Fernald; SYN: *Dryopteris thelypteris* (L.) A. Gray var. *pubescens* (G. Lawson) Nakai; Eastern Marsh Fern, Marsh Shield Fern; Calcareous fen and sedge meadows; Abundant; C = 7; BSUH 13642.

DIVISION CONIFEROPHYTA
(Gymnosperms)
Cupressaceae (Redwood or Cypress Family)

Juniperus virginiana L.; Eastern Red Cedar; Mesic woods in center; Rare (one tree); C = 2; BSUH 13719.

Taxodiaceae (Bald Cypress Family)

(*) *Taxodium distichum* (L.) Rich.; Bald Cypress; Woods along creek east side; Rare; C = 0; BSUH 13710.

DIVISION MAGNOLIOPSIDA
(Angiosperms)
Aceraceae (Maple Family)

Acer negundo L.; Boxelder, Ash-leaved Maple; Woods; Infrequent; C = 1; BSUH 13936.

Acer saccharum Marshall; Sugar Maple; Woods; Common; C = 4; BSUH 13686.

Alismataceae (Water-Plantain Family)

Sagittaria latifolia Willd.; Common or Broadleaf Arrowhead; South fen; Infrequent; C = 3; BSUH 13954.

Anacardiaceae (Cashew Family)

Toxicodendron radicans (L.) Kuntze var. *negundo* (Greene) Reveal; Common or Eastern Poison Ivy; Widespread in woods; Abundant; C = 1; BSUH 13595.

(#) *Toxicodendron rydbergii* (Small ex Rydb.) Greene; SYN: *Rhus radicans* L. var. *rydbergii* (Small ex Rydb.) Rehder; Western Poison Ivy; North end of central mesic woods; Rare but locally common; C = 7; BSUH 13688.

Apiaceae (Carrot Family)

Cryptotaenia canadensis (L.) DC.; Canadian Honewort; Woods; Infrequent to common; C = 3; BSUH 13665.

(*) *Daucus carota* L.; Wild Carrot, Queen Anne's Lace; Dry field along NW edge of wetlands; Rare; C = 0; BSUH 13757.

Osmorhiza longistylis (Torr.) DC.; Long-styled Sweet Cicely, Aniseroot; Woods along creek; Infrequent; C = 3; BSUH 13643.

Oxypolis rigidior (L.) Raf.; Cowbane, Stiff Cowbane; Calcareous fen and sedge meadows; Common to abundant; C = 7; BSUH 13613.

Sanicula canadensis L.; Canada Black Snakeroot, Canada Sanicle; Dry woods; Infrequent; C = 2; BSUH 13594, 13698.

Sanicula odorata (Raf.) K.M. Pryer & L.R. Phillippe; SYN: *Sanicula gregaria* Bickn.; Cluster Sanicle, Clustered Black Snakeroot; Woods; Infrequent to common; C = 2; BSUH 13634.

Thaspium trifoliatum (L.) A. Gray var. *aureum* Britton; Smooth or Yellow Meadow Parsnip; Mesic woods; Rare; C = 5; BSUH 13685.

Zizia aurea (L.) Koch; Common Golden Alexander, Golden Zizia; Fen; Infrequent; C = 7; BSUH 13670.

Apocynaceae (Dogbane Family)

Apocynum cannabinum L.; Dogbane, Indian Hemp; Mesic woods and dry field at NW edge of wetland; Infrequent but locally common; C = 2; BSUH 13693.

Araceae (Arum Family)

Arisaema dracontium (L.) Schott; Green Dragon, Dragon Root; Mesic woods along creek; Rare (one plant); C = 5; BSUH 13952.

Arisaema triphyllum (L.) Schott; Jack-in-the-Pulpit, Indian Turnip; Woods, especially the dry woods; Common; C = 4; BSUH 13691.

Symplocarpus foetidus (L.) Salisb. ex Nutt.; Skunk Cabbage; Open mesic woods, fen, and sedge meadows; Common and locally abundant; C = 8; BSUH 13647, 13907.

Asclepiadaceae (Milkweed Family)

Asclepias incarnata L.; Swamp Milkweed; Calcareous fen and sedge meadows; Infrequent; C = 4; BSUH 13632.

Asclepias syriaca L.; Common Milkweed; Dry field along northern border of wetland; Rare; C = 1; BSUH 13616.

Asteraceae (Aster Family)

Achillea millefolium L.; Common Yarrow, Common Milfoil; Dry field and edge of woods on west side; Rare to infrequent; C = 0; BSUH 13964.

Ageratina altissima (L.) R.M. King & H. Rob.; SYN: *Eupatorium rugosum* Houtt.; White Snakeroot; Mesic woods; Rare to infrequent; C = 2; BSUH 13624.

Ambrosia artemisiifolia L. var. *elatior* Descourt.; Common or Annual Ragweed; Dry woods and dry field; Infrequent to common; C = 0; BSUH 13931.

Ambrosia trifida L.; Giant Ragweed; Woods and creek bank on east side; infrequent; C = 0; BSUH 13546.

Bidens coronata (L.) Britton; Northern Tickseed Sunflower, Crowned Beggar Ticks; Woods along creek at entrance; Rare; C = ; BSUH 13965.

(*) *Cichorium intybus* L.; Chicory; West woods and dry field; Common; C = 0; BSUH 13928.

(*) *Cirsium arvense* (L.) Scop.; SYN: *Cirsium arvense* (L.) Scop. var. *horridum* Wimmer & Grab.; Field or Canada Thistle; West woods and dry field; Infrequent; C = 0; BSUH 13963.

Cirsium discolor (Muhl.) Spreng.; Field or Pasture Thistle; Dry field; Infrequent; C = 3; BSUH 13551.

Erigeron annuus (L.) Pers.; Annual Fleabane, Eastern Daisy Fleabane; Mesic woods; Infrequent; C = 0; BSUH 13692.

Erigeron philadelphicus L.; Philadelphia Daisy, Marsh Fleabane; Dry field and edge of woods; Infrequent; C = 3; BSUH 13678.

Eupatoriadelphus maculatus (L.) R.M. King & H. Rob.; SYN: *Eupatorium maculatum* L.; Spotted Joe Pye Weed, Spotted Trumpetweed; Fen and sedge meadows; Common to abundant; C = 5; BSUH 13715.

Eupatorium perfoliatum L.; Common Boneset; Calcareous fen and sedge meadows; Abundant; C = 4; BSUH 13615.

(#) *Eupatorium serotinum* Michx.; Late Eupatorium, Late-Flowering Thoroughwort; Dry border and field; Infrequent; C = 0; BSUH 13574.

Helianthus grosseserratus M. Martens; Sawtooth Sunflower; Southern fen and sedge meadow; Infrequent; C = 3; BSUH 13549.

Heliopsis helianthoides (L.) Sweet; Sunflower Everlasting, False Sunflower, Smooth Oxeye; Open mesic woods and meadow; Infrequent; C = 4; BSUH 13623.

Lactuca biennis (Moench) Fernald; Tall Blue Lettuce; Dry creek bank along creek at entrance; Rare; C = 2; BSUH 13944.

Lactuca canadensis L.; Tall or Canada Wild Lettuce; Dry field bordering fen; Infrequent; C = 2; BSUH 13720.

Lactuca floridana (L.) Gaertn. var. *floridana*; Woodland Lettuce; Mesic woods; Common; C = 5; BSUH 13726.

Oligoneuron riddellii (Frank ex Riddell) Rydb.; *Solidago riddellii* Frank.; Riddell's Goldenrod; Sedge meadow on east side only; Infrequent but widespread in this meadow; C = 9; BSUH 13576.

Packera aurea (L.) Á. Löve & D. Löve; SYN: *Senecio aureus* L.; Heart-leaved Groundsel, Golden Ragwort; Sedge meadow on east side only; Abundant and widespread in this meadow; C = 4; BSUH 13909.

Rudbeckia fulgida Aiton var. *speciosa* (Wender.) Perdue; SYN: *Rudbeckia fulgida* Aiton var. *sullivantii* (C.L. Boynton & Beadle) Cronquist; Eastern Coneflower, Orange Coneflower; Open mesic woods, southern fen, and eastern sedge meadow; Infrequent but locally abundant; C = 8; BSUH 13717.

Rudbeckia hirta L. var. *pulcherrima* Farw.; Black-eyed Susan; Calcareous fen and sedge meadows; Abundant; C = 2; BSUH 13609.

Solidago canadensis L. var. *canadensis*; Common or Canada Goldenrod; Open mesic woods; Rare; C = 0; BSUH 13561.

Solidago patula Muhl.; Rough-leaved or Round-leaf Goldenrod; Fen and sedge meadows; Abundant; C = 8; BSUH 13571.

Solidago uliginosa Nutt.; Northern Bog Goldenrod; Fen and sedge meadows (especially the eastern sedge meadow); Infrequent but widespread; C = 10; BSUH 13580.

Symphyotrichum cordifolium (L.) G.L. Nesom; SYN: *Aster cordifolius* L.; Common Blue Wood Aster, Common Blue Heart-Leaved Aster; Woods along creek on east side; Common; C = 5; BSUH 13578.

Symphyotrichum cordifolium (L.) G.L. Nesom; SYN: *Aster sagittifolius* Willd.; Arrow-Leaved Aster, Common Blue Wood Aster; Woods along creek on east side; Rare; C = 5; BSUH 13575.

(#) *Symphyotrichum dumosum* (L.) G.L. Nesom; SYN: *Aster dumosus* L.; Long-Stalked Aster, Rice Button Aster; Sedge meadow on east side only; Rare but locally common (several dozen plants); C = 4; BSUH 13764. *Special Note*: According to Deam (1940), *Aster dumosus* occurs on moist sandy soil in the northern 1/4 of Indiana. Since our report of this species from Henry County represents a significant southward range extension, we evaluated whether the plants at IMI fen might simply be depauperate *A. lateriflorus* or *A. lanceolatus*. These plants did not comfortably key to A. *lateriflorus* since they had mostly solitary heads, they are completely glabrous, they have narrow leaves (maximum width of less than 6 mm), and 15–16 ray flowers. The lobes of the disk flowers were also less then 40% as long as the limb. On the other hand, these plants did not easily key to *A. lanceolatus* since they had too few ray flowers and the involucral bracts were green dilated apically rather than possessing a slender midrib. Furthermore, the peduncle bracts seem more numerous and smaller in size than those characteristic of *A. lanceolatus*.

Symphyotrichum firmum (Nees) G.L. Nesom; SYN: *Aster firmis* Nees; Shining Aster, Shiny-Leaved Aster; Fen and sedge meadow; Infrequent to common; C = 4; BSUH 13581.

Symphyotrichum lanceolatum (Willd.) G.L. Nesom ssp. *lanceolatum* var. *lanceolatum*; SYN: *Aster lanceolatus* Willd. var. *simplex* (Willd.) A.G. Jones, *Aster simplex* Willd.; White Panicle Aster, Eastern Lined Aster; Creek bank and woods along creek on the east side; Frequent; C = 3; BSUH 13785.

Symphyotrichum lateriflorum (L.) Á. Löve & D. Löve; SYN: *Aster lateriflorus* (L.) Britton; Goblet, Calico, or Side-Flowering Aster; Woods; Common to abundant; C = 3; BSUH 13560, 13786.

Symphyotrichum novae-angliae (L.) G.L. Nesom; SYN: *Aster novae-angliae* L.; New England Aster; Dry field bordering wetland complex; Common; C = 3; BSUH 13552.

Symphyotrichum pilosum (Willd.) G.L. Nesom; SYN: *Aster pilosus* Willd. var. *pilosus*; Awl Aster, Hairy White Old-Field Aster; Edge of woods and dry field bordering wetland complex; Infrequent but locally common; C = 0; BSHU 13573.

Symphyotrichum puniceum (L.) Á. Löve & D. Löve; SYN: *Aster puniceus* L.; Bristly Aster, Purple-Stem Aster; Fen and sedge meadows; Abundant; C = 7; BSUH 13568.

(*) *Taraxacum officinale* F.H. Wigg; Common Dandelion; Woods and dry field; Common; C = 0; BSUH 13649.

Verbesina alternifolia (L.) Britton; Wingstem; Creek band east side; Infrequent; C = 3; BSUH 13707.

Vernonia gigantea (Walter) Trel.; Tall Ironweed; Wet meadow at north end of complex; Abundant; C = 2; BSUH 13700.

Balsaminaceae (Touch-me-not Family)

Impatiens capensis Meerb.; Orange or Spotted Touch-Me-Not or Jewelweed; All wetland types; Common but locally abundant; C = 2; BSUH 13628.

Impatiens pallida Nutt.; Pale or Yellow Touch-Me-Not or Jewelweed; Creek bank on east side; Rare; C = 4; BSUH 13708.

Berberidaceae (Barberry Family)

Podophyllum peltatum L.; Mayapple; Dry woods; Infrequent but locally common; C = 3; BSUH 13696, 13903.

Betulaceae (Birch Family)

Betula nigra L.; River Birch; Creek bank in woods on east side; Rare; C = 2; BSUH 13599.

Carpinus caroliniana Walt. var. *virginiana* (Marshall) Furlow; American Hornbeam, Blue Beech, Musclewood; Woods; Infrequent; C = 5; BSUH 13683.

Boraginaceae (Borage Family)

Hackelia virginiana (L.) I.M. Johnst.; Stickseed, Beggar's Lice; Creek bank along east side; Rare to infrequent; C = 0; BSUH 13705.

Brassicaceae (Mustard Family)

(*) *Alliaria petiolata* (Bieb.) Cavara & Grande; Garlic Mustard; Dry woods on west side; Infrequent; C = 0; BSUH 13914.

(*) *Barbarea vulgaris* W.T. Aiton; Yellow Rocket; Open woods on west side and dry field; Rare; C = 0; BSUH 13912.

Cardamine bulbosa (Schreb. ex Muhl.) B.S.P.; SYN: *Cardamine rhomboidea* (Pers.) DC.; Bulbous Bittercress, Spring Cress; All wetland types; Abundant; C = 4; BSUH 13662.

Cardamine concatenata (Michx.) Sw.; SYN: *Dentaria laciniata* Muhl.; Cutleaf or Five-parted Toothwort; Woods; Common; C = 4; BSUH 13902.

(*, #) *Erysimum cheiranthoides* L.; Wormseed Mustard, Wormseed Wallflower; Dry border of wetland complex; Rare; C = 0; BSUH 13935.

Campanulaceae (Bellflower Family)

Campanulastrum americanum (L.) Small; SYN: *Campanula americana* L.; Tall or American Bellflower; Dry woods; Abundant; C = 4; BSUH 13627.

Lobelia inflata L.; Indian Tobacco; Mesic woods; Rare; C = 3; BSUH 13617.

Lobelia kalmii L.; Kalm's Lobelia, Ontario Lobelia; Sedge meadows, especially the one on the east side; Infrequent but widespread in this meadow; C = 10; BSUH 13703.

Lobelia siphilitica L.; Great Blue Lobelia; Mesic woods; Common to abundant; C = 3; BSUH 13555.

Cannabaceae (Indian Hemp Family)

Humulus lupulus L. var. *lupuloides* E. Small; Common Hops; Woods; Common; C = 5; BSUH 13553, 13695.

Caprifoliaceae (Honeysuckle Family)

(*) *Lonicera maackii* (Rupr.) Herder; Amur Honeysuckle; Woods along creek on the east side; Rare; C = 0; BSUH 13636.

(*) *Lonicera tatarica* L.; Tartarian Honeysuckle; Central mesic woods; Rare (one bush); C = 0; BSUH 13922.

Sambucus nigra L. ssp. *canadensis* (L.) R. Bolli; SYN: *Sambucus canadensis* L.; Wet meadow at north end; Rare (one large bush); Common Elder or Elderberry; C = 2; BSUH 13682.

(#) *Triosteum perfoliatum* L.; Perfoliate Horse Gentian, Feverwort; Mesic woods; Rare; C = 5; BSUH 13679.

Viburnum lentago L.; Nannyberry, Sheepberry; Woods, especially the central mesic woods; Abundant; C = 5; BSUH 13591, 13916.

(*) *Viburnum opulus* L.; Guelder Rose, European Cranberry Bush; Central mesic woods; Rare (one bush); C = 0; BSUH 13730.

Viburnum prunifolium L.; Black Haw; Woods; Infrequent; C = 4; BSUH 13592, 13915.

Caryophyllaceae (Pink Family)

Silene virginica L.; Fire Pink; Woods along creek at entrance; Rare; C = 7; BSUH 13668.

(*) *Stellaria media* (L.) Vill.; Common Chickweed; Woods along creek on the east side; Common; C = 0; BSUH 13659, 13906.

Celastraceae (Staff-tree Family)

Celastrus scandens L.; American or Climbing Bittersweet; Central mesic woods; Rare; C = 2; BSUH 13731.

Clusiaceae (Mangosteen Family)

(*) *Hypericum perforatum* L.; Common St. John's Wort; Woods and dry border on west side of complex; Infrequent; C = 0; BSUH 13959.

Hypericum punctatum Lam.; Spotted St. John's Wort; Dry Border and field; Infrequent; C = 3; BSUH 13556, 13721.

Commelinaceae (Spiderwort Family)

(*) *Commelina communis* L.; Common or Asiatic Dayflower; Dry border and field along the north end of complex; Rare; C = 0; BSUH 13550.

Convolvulaceae (Morning-glory Family)

Calystegia sepium (L.) R. Br.; American or Hedge Bindweed; Wet meadow at north end of complex; Infrequent; C = 1; BSUH 13723.

Cornaceae (Dogwood Family)

Cornus obliqua Raf.; SYN: *Cornus amomum* Miller var. *schuetzeana* (C.A. Mey.) Rickett; Knob-Styled Dogwood, Silky Dogwood; Various wetland types; Common; C = 5; BSUH 13687.

Cornus drummondii C.A. Mey.; Rough-leaved Dogwood; Central mesic woods; Frequent; C = 2; BSUH 13593.

Cornus racemosa Lam.; Northern Swamp Dogwood, Gray Dogwood; Edge of mesic woods; Rare; C = 2; BSUH 13671.

Cuscutaceae (Dodder Family)

Cuscuta gronovii Willd.; Common Dodder, Scaldweed; Fen and sedge meadows, especially at the

south end; Common to abundant; C = 2; BSUH 13548, 13712.

Cyperaceae (Sedge Family)

Carex aggregata Mack.; Smooth Clustered Sedge; Fen and sedge meadows; Infrequent; C = 2; BSUH 13752.

Carex albursina Sheldon; Blunt-Scaled Wood Sedge; Dry woods bordering the south end; Rare but locally common; C = 7; BSUH 13753, 13966.

Carex blanda Dewey; Common Wood Sedge; Central mesic woods; Common; C = 1; BSUH 13754.

(#) *Carex buxbaumii* Wahlenb.; Dark-Scaled Sedge, Buxbaum's Sedge; Calcareous fen and sedge meadows; Abundant; C = 10; BSUH 13816.

Carex cryptolepis Mack.; Small Yellow Sedge, Northeastern Sedge; Calcareous fen and sedge meadows; Rare, but locally abundant; C = 10; BSUH 13807.

Carex frankii Kunth; Bristly Cattail or Frank's Sedge; Open mesic woods and wet meadow; Infrequent; C = 2; BSUH 13809.

Carex granularis Muhl.; Pale Sedge, Limestone Meadow Sedge; Woods; Infrequent but locally common; C = 2; BSUH 13751, 13767.

Carex grisea Wahlenb.; Wood Gray Sedge, Inflated Narrow-Leaf Sedge; Woods along creek on east side; Rare to infrequent; C = 2; BSUH 13667, 13755.

Carex hystericina Willd.; Porcupine Sedge, Bottlebrush Sedge; Wet meadow, fen, and sedge meadows; Common and locally abundant; C = 5; BSUH 13775.

Carex laevivaginata (Kük.) Mack.; Smooth-Sheathed Fox Sedge; Wet meadow in NE corner near entrance; Common; C = 7; BSUH 13815.

Carex leptalea Wahlenb.; Slender Sedge, Bristly-Stalked Sedge; Fen and sedges; Abundant; C = 8; P.E. Rothrock #3456 + BSUH 13968.

Carex lurida Wahlenb.; Bottlebrush Sedge; Fen and sedge meadows; Frequent and locally common; C = 4; BSUH 13776.

Carex pellita Willd.; Broad-leaved Woolly Sedge, Woolly Sedge; Fen and sedge meadows; Common; C = 2; BSUH 13813.

Carex rosea Schkuhr ex Willd.; Curly-Styled Wood Sedge, Rosy Sedge; Dry woods; Common; C = 5; BSUH 13777.

Carex shortiana Dewey; Short's Sedge; Sedge meadows; Infrequent; C = 3; BSUH 13778.

Carex sterilis Willd.; Fen Star Sedge, Dioecious Sedge; Calcareous fen and sedge meadows (especially south of the central mesic woods); Abundant; C = 9; BSUH 13969.

Carex stipata Willd.; Common Fox Sedge, Owl-fruit Sedge; Wet meadow in NE corner near entrance; Rare but locally common; C = 2; BSUH 13814.

Carex stricta Lam.; Common Tussock Sedge, Upright Sedge; Fen and sedge meadows; Abundant; C = 5; BSUH 13779.

(#) *Carex tetanica* Schkuhr; Common Stiff Sedge, Rigid Sedge; Fen and sedge meadows; Common and widespread; C = 9; BSUH 13970.

Carex vulpinoidea Michx.; Brown Fox Sedge; Open mesic woods, wet meadows, and sedge meadows; Infrequent to common; C = 2; BSUH 13817.

Cyperus strigosus L.; False Nut Sedge, Long-scaled Nut Sedge, Straw-colored Flat Sedge; Wet meadow north of central mesic woods and sedge meadows; Frequent to common in wet meadow but only infrequent in sedge meadows; C = 0; BSUH 13780.

Eleocharis elliptica Kunth; Golden-Seed Spike Rush, Elliptic Spike Rush; Fen and sedge meadows; Infrequent to common; C = 10; P.E. Rothrock #3458 + BSUH 13766, 13971.

Eleocharis erythropoda Steud.; Red-Rooted Spike Rush, Bald Spike Rush; Fen and sedge meadows; Abundant; C = 2; BSUH 13781, 13972.

Rhynchospora capillacea Torr.; Hair Beak Rush, Needle Beaksedge; Marl runs of calcareous fens; Abundant at these sites; C = 10; BSUH 13811, 13984.

Scirpus atrovirens Willd.; Dark Green Bulrush, Green Bulrush; Several wetland types; Abundant; C = 4; BSUH 13810.

Scirpus hattorianus Makino; Early Dark-Green Bulrush; Southern fen and sedge meadow; Rare but locally common; C = 3; BSUH 13973, 13974, 13975.

Scirpus pendulus Muhl.; Red Bulrush, Rufous Bulrush; Open areas of central mesic woods and wet meadow; Abundant; C = 2; BSUH 13819.

Dioscoreaceae (Yam Family)

Dioscorea villosa L.; Colic Root; Wild Yamroot, Wild Yam; Dry woods; Infrequent; C = 4; BSUH 13934.

Dipsacaceae (Teasel Family)

(*) *Dipsacus fullonum* L. ssp. *sylvestris* (Huds.) Clapham; SYN: *Dipsacus sylvestris* Huds.; Common or Fuller's Teasel; Wet meadow north of central mesic woods; Rare; C = 0; BSUH 13699.

Elaeagnaceae (Oleaster Family)

(*) *Elaeagnus umbellata* Thunb.; Autumn Olive; Central mesic woods; Rare (one bush); C = 0; BSUH 13645.

Fabaceae (Pea or Bean Family)

(#) *Apios americana* Medik.; Common Ground Nut, Wild Bean; Woods along creek on east side; Rare but locally common; C = 3; BSUH 13709.

Cercis canadensis L.; Eastern Redbud; Dry woods; Infrequent; C = 3; BSUH 13583, 13899.

Desmodium canadense (L.) DC.; Canadian Tick Trefoil, Showy Tick Trefoil; Central mesic woods; Rare but locally common; C = 3; BSUH 13547.

Desmodium canescens (L.) DC.; Hoary Tick Trefoil; Dry border at NW corner; Rare; C = 3; BSUH 13619.

(*) *Medicago lupulina* L.; Black Medic; Open area in dry woods; Rare; C = 0; BSUH 13929.

(*) *Medicago sativa* L.; Common Alfalfa; Dry border and field, planted; Common to abundant; C = 0; BSUH 13941.

(*) *Trifolium pratense* L.; Red Clover; Open area of woods along creek on the east side and dry border on the west; Infrequent; C = 0; BSUH 13962.

(*) *Trifolium repens* L.; White Clover; Dry border on the west; Infrequent; C = 0; BSUH 13961.

Fagaceae (Beech Family)

Quercus macrocarpa Michx.; Burr Oak; Woods along creek on east side; Rare; C = 5; BSUH 13664.

Quercus muhlenbergii Engelm.; Yellow, Chinkapin, or Chinquapin Oak; Woods along creek on east side; Rare (one tree); C = 4; BSUH 13935.

Grossulariaceae (Gooseberry Family)

Ribes cynosbati L.; Dogberry, Eastern Prickly Gooseberry; Dry ridge bordering fen from creek; Rare but locally common; C = 4; BSUH 13653.

Iridaceae (Iris Family)

Iris virginica L. var. *shrevei* (Small) E. Anderson; Southern Blue Flag, Shreve's Iris; Sedge meadow and fen; Infrequent; C = 5; BSUH 13674.

Sisyrinchium angustifolium Mill.; Stout Blue-eyed Grass; Sedge meadow; Infrequent; C = 3; BSUH 13675.

Juglandaceae (Walnut Family)

Carya cordiformis (Wangenh.) K. Koch; Bitternut Hickory; Dry woods; Infrequent; C = 5; BSUH 13760.

Carya ovata (Mill.) K. Koch; Shagbark Hickory; Woods along creek near south fen; Rare (one tree); C = 4; BSUH 13933.

Juglans nigra L.; Black Walnut; Dry woods; Frequent; C = 2; BSUH 13588.

Juncaceae (Rush Family)

Juncus brachycephalus (Engelm.) Buchenau; Short-Headed Rush, Small-Headed Rush; Calcareous fen, especially along marl runs, and sedge meadows; Common and widespread; C = 7 BSUH 13808.

Juncus dudleyi Wiegand; Dudley's Rush; Central mesic woods; Abundant; C = 2; BSUH 13818.

Juncaginaceae (Arrow Grass Family)

(#) *Triglochin palustre* L.; Marsh Arrow Grass, Slender Arrow Grass; Calcareous fen; Rare; C = 10; BSUH 13567. [Rare]

Lamiaceae (Mint Family)

Blephilia hirsuta (Pursh) Benth.; Hairy Wood Mint, Hairy Pagoda Plant; Creek bank and woods along creek on east side; Infrequent; C = 5; BSUH 13614, 13957.

(*) *Glechoma hederacea* L.; Ground Ivy, Gill-over-the-Ground, Creeping Charlie; Woods; Common; C = 0; BSUH 13657.

Lycopus americanus Muhl.; Common or American Water Horehound; Sedge meadow east of central mesic woods; Rare; C = 3; BSUH 13718.

Lycopus uniflorus Michx.; Northern Water Horehound, Northern Bugleweed; Wet meadow north of central mesic woods; Infrequent; C = 5; BSUH 13554.

Monarda fistulosa L.; Wild Bergamot; Sedge meadows and open areas of mesic woods; Infrequent but widespread; C = 3; BSUH 13756.

(*) *Prunella vulgaris* L.; Common Self Heal, Lawn Prunella; Sedge meadow east of central mesic woods; Infrequent; C = 0; BSUH 13621.

Pycnanthemum virginianum (L.) Durand & B.D. Jackson; Virginia Mountain Mint; Fen and sedge meadows; Infrequent to common; C = 5; BSUH 13630.

Teucrium canadense L. var. *virginicum* (L.) Eaton; American Germander; Dry border and field on west side; Frequent; C = 3; BSUH 13932.

Lauraceae (Laurel Family)

Lindera benzoin (L.) Blume; Northern or Hairy Spice Bush; Central mesic woods; Infrequent; C = 5; BSUH 13602.

Sassafras albidum (Nutt.) Nees; Sassafras; Dry woods on west side; Rare (one small tree); C = 1; BSUH 13930.

Liliaceae (Lily Family)

Allium canadense L.; Wild or Meadow Garlic; Central mesic woods; Rare; C = 1; BSUH 13681.

Allium burdickii (Hanes) A.G. Jones; SYN: *Allium tricoccum* Ait. var. *burdickii* Hanes; Narrow-leaf Wild Leek, Ramps; Dry woods; Infrequent to common; C = 6; BSUH 13913.

Lilium michiganense Farw.; Michigan Lily; Woods along creek at entrance and sedge meadow east of central mesic woods; Infrequent; C = 5; BSUH 13611.

Polygonatum biflorum (Walter) Elliot var. *biflorum*; Small or Smooth Solomon's Seal; Woods along creek on east side; Infrequent; C = 4; BSUH 13673.

Trillium sessile L.; Toadshade, Sessile Trillium; Dry woods; Rare (one large colony); C = 4; BSUH 13900.

Limnanthaceae (Meadow-Foam Family)

Floerkea proserpinacoides Willd.; False Mermaid Weed; Woods along creek on east side; Common and locally abundant; C = 5; BSUH 13650.

Lythraceae (Loosestrife Family)

(z) *Lythrum alatum* Pursh; Winged Lythrum; Sedge meadow; Rare (not found in the current study but reported [photographed] earlier); C = 5; BSUH 15884.

Menispermaceae (Moonseed Family)

Menispermum canadense L.; Common Moonseed; Dry woods; Infrequent; C = 3; BSUH 13586.

Moraceae (Mulberry Family)

(*) *Morus alba* L.; White Mulberry; Dry border on NW corner; Rare (two trees); C = 0; BSUH 13908.

Oleaceae (Olive Family)

Fraxinus americana L.; White Ash; Woods; Infrequent; C = 4; BSUH 13761, 13884.

Fraxinus pennsylvanica Marshall var. *pennsylvanica*; Red Ash; Dry Woods; Rare (one tree); C = 3; BSUH 13585.

Fraxinus pennsylvanica Marshall var. *subintegerrima* (Vahl) Fernald.; SYN: *Fraxinus pennsylvanica* Marshall var. *lanceolata* (Borkh.) Sarg.; Green Ash; Woods (especially along the creek on the east side), fen, and sedge meadows; Common; C = 1; BSUH 13600, 13885.

(*, #) *Ligustrum obtusifolium* Sieb. & Zucc.; Border Privet; Central mesic woods; Rare; C = 0; BSUH 13690.

Onagraceae (Evening-Primrose Family)

Circaea lutetiana L. ssp. *canadensis* (L.) Aschers. & Magnus; Broadleaf Enchanter's Nightshade; Woods; Common; C = 2; BSUH 13607.

Epilobium coloratum Biehler; Eastern Willow Herb, Cinnamon Willow Herb, Purpleleaf Willow Herb; Wet meadow north of central mesic woods, sedge meadows, and fen; Infrequent but widespread; C = 3; BSUH 13570.

Orchidaceae (Orchid Family)

(#) *Spiranthes lucida* (H. Eaton) Ames; Shining Ladies' Tresses; Sedge meadow east of central mesic woods; Rare (eight plants at one site); C = 10; BSUH 13923. [Rare]

Oxalidaceae (Wood Sorrel Family)

Oxalis stricta L.; SYN: *Oxalis dillenii* Jacq.; Tall or Common Yellow Wood Sorrel; Woods and dry border and field; Infrequent; C = 0; BSUH 13711, 13937.

Papaveraceae (Poppy Family)

Sanguinaria canadensis L.; Bloodroot; Dry woods; Common; C = 5; BSUH 13587.

Phytolaccaceae (Pokeweed Family)

Phytolacca americana L.; American Pokeweed or Pokeberry; Creek bank of woods on east side; Rare; C = 0; BSUH 13704.

Plantaginaceae (Plantain Family)

Plantago rugelii Decne.; American or Red-Stalked Plantain; Central mesic woods; Rare; C = 0; BSUH 13924.

Platanaceae (Plane-tree Family)

Platanus occidentalis L.; American Sycamore; Woods on west side; Rare (one tree); C = 3; BSUH 13942.

Poaceae (Grass Family)

(*) *Agrostis gigantea* Roth; Redtop; Open mesic woods and wet meadow at north side; Abundant; C = 0; BSUH 13782.

Andropogon gerardii Vitman; Big Bluestem; Fen, sedge meadows, and open mesic woods; Infrequent; C = 5; BSUH 13789.

(*) *Bromus arvensis* L.; SYN: *Bromus japonicus* Thunb.; Japanese Chess, Field Brome; Dry border on west side; Infrequent; C = 0; BSUH 13976.

(*) *Bromus inermis* Leyss.; Smooth or Hungarian Brome; Open dry woods; Rare; C = 0; BSUH 13800.

Cinna arundinacea L.; Common Wood Reed; Woods along creek on east side; Abundant; C = 4; BSUH 13788.

(*) *Dactylis glomerata* L.; Orchard Grass; Creek bank in woods on east side; Infrequent; C = 0; BSUH 13801.

Dichanthelium acuminatum (Sw.) Gould & C.A. Clark var. *fasciculatum* (Torr.) Freckmann; SYN: *Panicum implicatum* Britton, *Panicum lanuginosum* Elloit var. *implicatum* (Scribn.) Fernald; Woolly, Western, or Old-field Panic Grass; Woods along creek on east side and edge of sedge meadow on east side; Common to abundant; C = 2; BSUH 13793, 13982.

(#) *Echinochloa muricata* (P. Beauv.) Fernald var. *muricata*; Rough Barnyard Grass; Edge of woods and fen, west side; Rare; C = 1; BSUH 13977.

(*) *Elymus repens* (L.) Gould; SYN: *Elytrigia repens* (L.) Nevski; Quack Grass; Dry border; Infrequent; C = 0; BSUH 13798.

Elymus riparius Wiegand; Streambank Wild Rye; Central mesic woods and fen; Infrequent; C = 5; BSUH 13799.

Elymus villosus Muhl. ex Willd.; Downy or Hairy Wild Rye; Central mesic woods; Common to abundant; C = 4; BSUH 13795.

Elymus virginicus L.; Virginia Wild Rye; Central mesic woods; Common to abundant; C = 3; BSUH 13794.

Festuca subverticillata (Pers.) E. Alexeev; SYN: *Festuca obtusa* Biehler; Nodding Fescue; Woods along creek on the east side; Infrequent to common; C = 4; BSUH 13805.

Glyceria striata (Lam.) Hitchc.; Fowl Manna Grass; Fen and woods along creek; Infrequent; C = 4; BSUH 13765.

Leersia oryzoides (L.) Sw.; Rice Cut Grass; Wet meadow at northern end and southern fen; Abundant; C = 2; BSUH 13790.

Leersia virginica Willd.; White Grass; Central mesic woods; Common; C = 4; BSUH 13796.

Muhlenbergia frondosa (Poir.) Fernald; Common Satin Grass, Wirestem Muhly; Woods and sedge meadows; Infrequent to common; C = 3; BSUH 13979.

(#) *Muhlenbergia glomerata* (Willd.) Trin.; Marsh Wild Timothy, Marsh Muhly, Spiked Muhly; Calcareous fen and sedge meadows; Infrequent; C = 10; BSUH 13783.

Muhlenbergia mexicana (L.) Trin.; Satin Grass, Mexican Muhly; Fen and sedge meadow; Common to abundant and widespread; C = 4; BSUH 13978.

(*) *Phleum pratense* L.; Timothy Grass; Dry border and field; Common; C = 0; BSUH 13797.

(*) *Poa compressa* L.; Canada Bluegrass; Central mesic woods; Abundant; C = 0; BSUH 13806.

(*) *Poa pratensis* L.; Kentucky Bluegrass; Creek bank of eastern woods, especially at entrance; Infrequent but locally common; C = 0; BSUH 13802.

(*) *Poa trivialis* L.; Rough Bluegrass; Creek bank of eastern woods; Infrequent; C = 0; BSUH 13803.

(*) *Schedonorus phoenix* (Scop.) Holub; SYN: *Festuca arundinacea* Schreb., *Festuca elatior* L. var. *arundinacea* (Schreb.) Wimm., *Lolium arundinaceum* (Schreb.) Darbysh.; Tall Fescue; Calcareous fen in the marl run (an atypical habitat for this species); Rare; C = 0; BSUH 13784.

Schizachyrium scoparium (Michx.) Nash; Little Bluestem; Fen and sedge meadow, especially the sedge meadow east of the central mesic woods; Abundant at the later site; C = 4; BSUH 13791.

(*) *Setaria faberi* R.A.W. Herrm.; Nodding or Giant Foxtail Grass; Dry border and field; Infrequent; C = 0; BSUH 13939.

Sorghastrum nutans (L.) Nash; Indian Grass; Fen and sedge meadows; Infrequent but widespread; C = 4; BSUH 13792.

Sphenopholis intermedia (Rydb.) Rydb.; SYN: *Sphenopholis obtusata* (Michx.) Scribn. var. *major* (Torr.) K.S. Erdman; Slender Wedge Grass, Slender Wedgescale; Sedge meadow east of central mesic woods; Infrequent; C = 3; BSUH 13804.

Polemoniaceae (Phlox Family)

Phlox maculata L.; Meadow Phlox, Wild Sweet William; Sedge meadow east of central mesic woods; Infrequent to common; C = 8; BSUH 13610.

Polemonium reptans L.; Spreading Jacob's Ladder, Greek Valerian; Woods along creek on the east side; Rare to infrequent; C = 5; BSUH 13661.

Polygonaceae (Smartweed Family)

(*) *Polygonum aviculare* L.; Doorweed, Common or Prostrate Knotweed; Dry border and edge of woods; Rare to infrequent; C = 0; BSUH 13940.

(*) *Polygonum cespitosum* Blume var. *longisetum* (Bruijn) Steward; SYN: *Persicaria caespitosa* (Blume) Nakai var. *longiseta* (Bruijn) C.F. Reed; Creeping Smartweed, Oriental Lady's Thumb; Creek bank and woods along creek on east side; Infrequent; C = 0; BSUH 13577.

Polygonum punctatum Elliot var. *confertiflorum* (Meisn.) Fassett; SYN: *Persicaria punctata* (Elliot) Small; Dotted Smartweed; Wet meadow north of central mesic woods and fen; Infrequent; C = 3; BSUH 13724.

Polygonum scandens L.; SYN: *Fallopia scandens* (L.) Holub; Climbing False Buckwheat; Woods; Infrequent but widespread; C = 0; BSUH 13949.

Polygonum virginianum L.; SYN: *Tovara virginiana* (L.) Raf.; Jumpseed, Virginia Knotweed; Dry woods and dry border and field; Common; C = 3; BSUH 15883.

(*) *Rumex crispus* L.; Curly Dock; Creek bank of eastern woods near entrance; Rare; C = 0; BSUH 13684.

(*) *Rumex obtusifolius* L.; Bitter Dock; Fen; Rare; C = 0; BSUH 13669.

Rumex orbiculatus A. Gray var. *borealis* Rech. f.; Great Water Dock; SW fen at the top of the hill; Rare to infrequent; C = 7; BSUH 13569.

Portulacaceae (Purslane Family)

Claytonia virginica L.; Virginia Spring Beauty; Central mesic woods; Infrequent to common; C = 2; BSUH 13656, 13904.

Primulaceae (Primrose Family)

Lysimachia quadriflora Sims; Smooth Loosestrife, Four-Flowered Yellow Loosestrife; Fen and sedge meadow east of central mesic woods; Abundant at this site; C = 9; BSUH 13620.

Ranunculaceae (Buttercup Family)

Anemone virginiana L.; Tall Anemone, Tall Thimbleweed; Central mesic woods; Common; C = 4; BSUH 13626.

Caltha palustris L.; Marsh Marigold; Pool of standing water; Rare but locally abundant; C = 7; BSUH 13652, 13890.

(#) *Hydrastis canadensis* L.; Golden Seal, Yellowroot; Central mesic woods; Rare (one colony); C = 7; BSUH 13625. [Watch List]

Ranunculus abortivus L.; Small-Flowering Crowfoot; Little-Leaf Buttercup; Woods along creek bank on east side; Infrequent; C = 0; BSUH 13651, 13889.

Ranunculus hispidus Michx. var. *caricetorum* (Greene) T. Duncan; Hispid Buttercup, Bristly Buttcup; Woods along creek bank on east side near entrance; Rare but locally common; C = 10; BSUH 13633.

Ranunculus recurvatus Poir.; Hooked Crowfoot, Blisterwort; Dry woods; Rare; C = 5; BSUH 13919.

Rhamnaceae (Buckthorn Family)

Rhamnus lanceolata Pursh ssp. *glabrata* (Gleason) Kartesz & Gandhi; SYN: *Rhamnus lanceolata* Pursh var. *glabrata* Gleason; Lance-leaved Buckthorn; Central mesic woods; Rare but locally common; C = 4; BSUH 13694.

Rosaceae (Rose Family)

Agrimonia parviflora Aiton; Southern or Swamp Agrimony; Open areas of central mesic woods and wet meadow to the north; Infrequent but locally abundant; C = 4; BSUH 13557.

Agrimonia pubescens Wallr.; Downy Agrimony; Central mesic woods; Infrequent; C = 5; BSUH 13618.

Crataegus mollis (Torr. & A. Gray) Scheele; Downy Hawthorn; Woods; Infrequent; C = 2; BSUH 13702,13911.

Crataegus punctata Jacq.; Dotted Hawthorn; Open woods to the south; Rare; C = 2; BSUH 13716.

Dasiphora fruticosa (L.) Rydb. ssp. *floribunda* (Pursh) Kartesz; SYN: *Pentaphylloides floribunda* (Pursh) Á. Löve, *Potentilla fruticosa* L.; Shrubby Cinquefoil; Fen and sedge meadows; Abundant; C = 9; BSUH 13590.

Filipendula rubra (Hill) B.L. Rob.; Queen of the Prairie; Fen and sedge meadow, especially the sedge meadow east of the central mesic woods; Abundant at the later site; C = 9; BSUH 13612. [Watch List]

Fragaria virginiana Duchesne; Thick-leaved Wild Strawberry, Virginia Strawberry; Central mesic woods; Rare; C = 2; BSUH 13641.

Geum canadense Jacq.; White Avens; Central mesic woods; Common; C = 1; BSUH 13596.

Geum vernum (Raf.) Torr. & A. Gray; Spring Avens; Woods along creek on east side; Infrequent; C = 1; BSUH 13660.

Malus coronaria (L.) Mill.; SYN: *Pyrus coronaria* L.; Sweet Crabapple; Central mesic woods; Rare; C = 5; BSUH 13918.

Prunus serotina Ehrh.; Wild Black Cherry; Central mesic woods; Rare; C = 1; BSUH 13689.

(*) *Rosa multiflora* Thunb.; Multiflora or Japanese Rose; East woods along creek; Infrequent; C = 0; BSUH 13672.

Rosa palustris Marshall; Swamp Rose; Fen at southern end; Rare; C = 5; BSUH 13622, 13955.

Rosa setigera Michx.; Climbing Prairie Rose, Illinois Rose; Edge of woods; Common; C = 4; BSUH 13597.

Rosa virginiana Mill.; Virginia Rose; Edges of fens and sedge meadows; Infrequent; C = 4; BSUH 13603.

Rubus allegheniensis Porter; Common or Allegheny Blackberry; Border of wet meadow at the north end; Rare but locally common; C = 2; BSUH 13701.

Rubus occidentalis L.; Black Raspberry; Central mesic woods; Infrequent; C = 1; BSUH 13646.

Rubiaceae (Madder Family)

Galium aparine L.; Cleavers, Annual Bedstraw; Central mesic woods; Infrequent; C = 1; BSUH 13639.

Galium asprellum Michx.; Rough Bedstraw; Border between fen/sedge meadow and woods on east site; Infrequent but locally common; C = 7; BSUH 13629.

Galium circaezans Michx.; Forest Bedstraw, Smooth Wild Licorice, Licorice Bedstraw; Woods; Common; C = 7; BSUH 13666.

Galium concinnum Torr. & A. Gray; Shining Bedstraw; Central mesic woods; Common; C = 5; BSUH 13601.

Galium triflorum Michx.; Sweet-Scented or Fragrant Bedstraw; Fen, sedge meadows, wet meadow, and woods along creek; Common; C = 5; BSUH 13714.

Salicaceae (Willow Family)

Populus deltoides Marshall; Eastern Cottonwood; Woods along creek on east side; Infrequent; C = 1; BSUH 13663.

Salix discolor Muhl.; Pussy Willow; Fen at southern end; Infrequent; C = 3; BSUH 13728.

Salix eriocephala Michx.; Diamond or Heart-Leaved Willow; Wet border between west sedge meadow and the northern wet meadow; Rare; C = 4; BSUH 13888.

Salix nigra Marshall; Black Willow; Wet meadow and border between east sedge meadow and creek; Infrequent; C = 3; BSUH 13697, 13763, 13943.

(#) *Salix petiolaris* J.E. Sm.; Petioled Willow; Meadow Willow; Fen and sedge meadows; Common to abundant; C = 6; BSUH 13680, 13762, 13886, 13887.

Saxifragaceae (Saxifrage Family)

Heuchera americana L.; American, Common, or Tall Alumroot; Young open woods south of the central mesic woods; Rare but locally common; C = 7; BSUH 13667.

Parnassia glauca Raf.; American Grass of Parnassus, Fen Grass of Parnassus; Calcareous fen; Common and locally abundant; C = 10; BSUH 13564.

Scrophulariaceae (Figwort Family)

Agalinis purpurea (L.) Pennell; Smooth Agalinis, Purple False Foxgloves; Fen and sedge meadows; Common and widespread; C = 6; BSUH 13566.

(#) *Aureolaria virginica* (L.) Pennell; Downy False Foxglove; Young open woods south of the central mesic woods; Rare but locally common; C = 8; BSUH 13729.

Chelone glabra L.; White Turtlehead; Sedge meadow west of central mesic woods; Infrequent but locally common; Sedge meadow west of the central mesic woods; C = 7; BSUH 13562.

Mimulus ringens L.; Allegheny Monkey Flower; Sedge meadow and woods east of the central mesic woods; Common; C = 4; BSUH 13631.

Pedicularis lanceolata Michx.; Swamp Lousewort, Fen Lousewort, Fen Betony; Fen and sedge meadows; Common; C = 6; BSUH 13572, 13579.

Veronica anagallis-aquatica L.; SYN: *Veronica catenata* Pennell; Water Speedwell; Creek bank of eastern woods; Rare; C = 5; BSUH 13635.

Simaroubaceae (Quassia Family)

(*, #) *Ailanthus altissima* (Mill.) Swingle; Tree of Heaven; Dry woods; Rare; C = 0; BSUH 13759.

Smilacaceae (Catbrier Family)

Smilax ecirrhata (Engelm.) S. Wats.; Upright Carrion Flower; Dry woods; Rare; C = 5; BSUH 13946.

Smilax hispida Muhl.; SYN: *Smilax tamnoides* L., *Smilax tamnoides* L. var. *hispida* (Muhl. ex Torr.) Fernald; Bristly Greenbrier or Catbrier; Woods; Infrequent; C = 3; BSUH 13677, 13945.

Smilax lasioneura Hook.; SYN: *Smilax herbacea* L. var. *lasioneura* (Small) Rydb.; Common Carrion Flower, Blue Ridge Carrion Flower; Dry woods; Rare; C = 4; BSUH 13953.

Solanaceae (Nightshade Family)

(#) *Physalis heterophylla* Nees; Clammy Ground Cherry; East woods along creek; Rare (one colony of eight plants); C = 3; BSUH 13951.

(*) *Solanum dulcamara* L.; Bittersweet Nightshade, Climbing Nightshade; Fen and sedge meadow; Rare but locally frequent; C = 0; BSUH 13589.

Solanum ptycanthum Dunal; SYN: *Solanum nigrum* L.; Eastern Black Nightshade; Edge of woods and fen; Rare; C = 0; BSUH 13956.

Tiliaceae (Linden Family)

Tilia americana L.; American Basswood, American Linden; Woods along creek on east side; Infrequent; C = 5; BSUH 13558.

Typhaceae (Cattail Family)

Typha latifolia L.; Common Cattail, Broadleaf Cattail; Sedge meadow and fen; Rare to infrequent but widespread; C = 1; BSUH 13563, 13727, 13938.

Ulmaceae (Elm Family)

Celtis occidentalis L.; Northern or Common Hackberry; Woods; Common; C = 3; BSUH 13584.

Ulmus americana L.; White or American Elm; Central mesic woods; Infrequent to common; C = 3; BSUH 13758.

Ulmus rubra Muhl.; Slippery or Red Elm; Woods, sedge meadows, and fen; Infrequent; C = 3; BSUH 13565, 13910.

Urticaceae (Nettle Family)

Laportea canadensis (L.) Wedd.; Canadian Wood Nettle; Woods along creek on east side; Frequent; C = 2; BSUH 13725.

(#) *Pilea fontana* (Lunell) Rydb.; Bog Clearweed; Sedge meadows and fen; Common to abundant; C = 5; BSUH 13917.

Pilea pumila (L.) A. Gray; Canadian Clearweed; Woods along creek on east side; Common at this site; C = 2; BSUH 13559.

Valerianaceae (Valerian Family)

Valerianella umbilicata (Sull.) Alph. Wood; Corn Salad; Creek bank in woods on east side; Common at this site; C = 5; BSUH 13637.

Verbenaceae (Vervain Family)

Phryma leptostachya L.; American Lopseed; Woods; Frequent; C = 4; BSUH 13606, 13706.

Verbena hastata L.; Common Vervain, Blue Vervain, Swamp Vervain; Sedge meadows and fen; Infrequent but widespread; C = 3; BSUH 13713.

Verbena urticifolia L.; White Vervain; Open mesic woods; Rare; C = 3; BSUH 13732.

Violaceae (Violet Family)

Viola cucullata Aiton; Blue Marsh Violet; Sedge meadow and fen east of central mesic woods; Abundant at this site; C = 9; BSUH 13638.

(#) *Viola palmata* L. var. *palmata*; Wood Violet, Early Blue Violet; Dry woods; Infrequent; C = 5; BSUH 13604.

Viola pubescens Aiton; Yellow Forest Violet, Downy Yellow Violet; Dry woods; Common; C = 5; BSUH 13655, 13901.

Viola sororia Willd.; Dooryard Violet, Common or Woolly Blue Violet; Woods; Common and locally abundant; C = 1; BSUH 13648.

Vitaceae (Grape Family)

Parthenocissus quinquefolia (L.) Planch.; Virginia Creeper, Woodbine; Dry woods south side; Abundant; C = 2; BSUH 13608.

Parthenocissus vitacea (Knerr) Hitchc.; SYN: *Parthenocissus inserta* (A. Kern.) C. Fritsch; Grape Woodbine, Thicket Creeper; Mesic woods; Rare; C = 2; BSHU 13598.

Vitis riparia Michx.; Riverbank Grape; Woods; Infrequent; C = 1; BSUH 13644.

Vitis vulpina L.; Frost Grape; Woods; Infrequent; C = 3; BSUH 13676.

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Manuscript received 28 March 2008, revised 19 August 2008.