

THE VASCULAR FLORA AND PLANT COMMUNITIES OF THE BENNETT WETLAND COMPLEX IN HENRY COUNTY, INDIANA

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ABSTRACT. An inventory of the vascular flora occurring in the Bennett wetland complex in Henry County, Indiana, revealed 264 species and varieties representing 187 genera in 61 families. Of the 264 species, 210 (79.5%) are native and 54 (20.5%) are exotic. Approximately 52% of all species documented occur in seven families (Asteraceae, Poaceae, Cyperaceae, Rosaceae, Apiaceae, Fabaceae, and Lamiaceae). Of the 54 exotic species documented, approximately 63% occurred in the same families minus the Cyperaceae, and 13 are from the Poaceae. Of the 264 species, 41 are woody, 175 are herbaceous forbs and vines, 43 are grasses and sedges, and 5 are ferns and their allies. The Floristic Quality Index (FQI) for the native species is 54.6 and for all species, native plus exotics, is 48.7. The mean coefficient of conservatism (C_{av}) for the native species is 3.8 and for all species, native plus exotics, is 3.0. The FQIs 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 negative impact on the native flora. A discussion is presented suggesting the native FQI may be misleading at this site due to continued anthropogenic disturbance. The flora includes one threatened species (*Hypericum ascyron*) and four species on the watch list (*Cypripedium candidum*, *Filipendula rubra*, *Rhamnus lanceolata*, and *Selaginella apoda*). Eight species represent Henry County records. Based on hydrology and topography, the major community types (mesic woodland, roadside ditch and wet meadow, moist meadow, sedge meadow, and ditch fen) are described.

Keywords: Henry County Indiana, fens, sedge meadows, wetland complex, county records—vascular plants, Floristic Quality Index (FQI), plant communities, flora—Indiana, *Cypripedium candidum*

Wetlands in Indiana and the surrounding states have experienced major anthropogenic changes during the past two centuries (IDNR 1996). Through the period 1790–1980, Dahl (1990) estimated that over 85% of Indiana wetlands were lost. Although these habitats are critical for a variety of important ecological services (IDNR 1996; Mitsch & Gosselink 2000), wetlands now represent only 3.2% of the state's surface area (Dahl 1990). Despite this low areal extent, wetlands remain significant for maintaining the biodiversity of the state since a strong relationship exists between wetland loss and species listed as threatened or endangered (Hair et al. 1992).

This study of the Bennett wetland complex was undertaken as part of a continuing effort to determine the flora and floral communities of east-central Indiana, especially wetlands. Given the high rate of wetland loss and degradation regionally (IDNR 1996), it is important to document sites that potentially retain remnant

natural quality. These inventories and habitat descriptions can then provide guidance for future wetland protection and restoration.

The Bennett wetland complex, located east of State Road 3 in north-central Henry County, is approximately 1.75 km south of the Delaware County line. The botanical features of this site were first made known to the scientific community by Ben Torke in 1989. Byron Torke then showed the site to Mike Homoya, Heritage Botanist IDNR Division of Nature Preserves. Tom Swinford, Regional Ecologist at IDNR Division of Nature Preserves, and Kevin Tungesvich, Spence Nursery, have also visited the site, noting the unusual plant species.

When investigating a site that has not previously been studied, an inventory is the simplest means to document flora and floral community diversity and to identify plants or sites of special concern. Anthropogenic disturbance near this site has been extensive, i.e.,

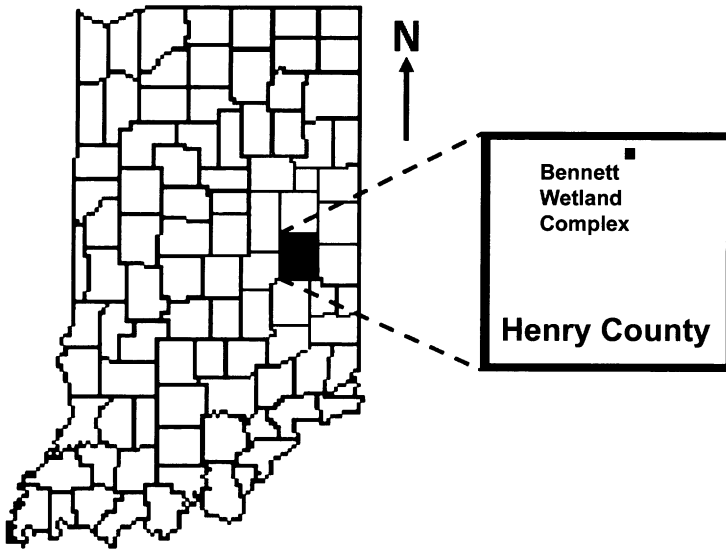


Figure 1.—Map of Indiana (left) showing the location of Henry County and the location of the Bennett wetland complex within the county (right).

agricultural operations on nearly all sides of the fen, road and roadside ditching for draining, and ditching of the actual fen in the past. Hence, an inventory was necessary to document plant biodiversity before it is lost. As such, the goals of the study were to inventory and voucher the vascular flora of the wetland complex, to visually estimate the distribution and relative abundance of each species, to describe the various habitats and summarize seasonal changes in vegetation, and to identify any communities sensitive to disturbance or with plants of special concern. Additional goals were to produce a map of the floral communities at the site and to suggest recommendations for future management. It should be noted that because an extensive wetland (i.e., sedge meadow and fen) occurred on private property along the south side of CR875N west of the fen, the study area was expanded to include the roadside ditch and meadow approximately 100 m west of the fen.

STUDY AREA

The Bennett wetland complex is an approximately 3–3.5 ha plot (~ 8 acres) located in north-central Henry County, Indiana (Fig. 1). The site lies about 2.5 km southeast of the town of Luray, 2.2 km east of State Road 3, and approximately 1.75 km south of the Delaware County line. In addition, the Bennett wetland

complex lies 1.45 km south-southeast of the IMI wetland complex previously inventoried by Ruch et al. (2008b). The latitude and longitude for the point marking the beginning of the fen on the Bennett property (the star in Fig. 2) are $N40^{\circ}3'35.94''$ and $W85^{\circ}20'42.49''$. The Bennett property is bordered on the south by CR875N. The wetland complex is surrounded by row crop fields owned since 1965 by Mr. Lowell Bennett. Buck Creek runs along the entire north side of the study site.

The study site contains a variety of natural habitats (Fig. 2). Along the north side of CR875N, there is small sloping mesic woodland. From the road the slope drops about 3–4 m to the closest row crop field. The wooded slope is what remains of a mounded fen at the base of the valley which existed prior to the construction of CR875N. The canopy of this woodland ranges from very open to completely closed, and the soil moisture ranges from moist to dry. A seasonal drainage ditch lies at the bottom of the slope and drains west into the fen. Along the north side of CR875N, bordering the mesic woodland and extending west is a typically dry roadside habitat. Along the south side of CR875N, the county has maintained a ditch to drain water seeping from the uplands south of the road across from the study site. In addition, on the south side of this ditch west of the fen, there is a privately-owned fen/sedge

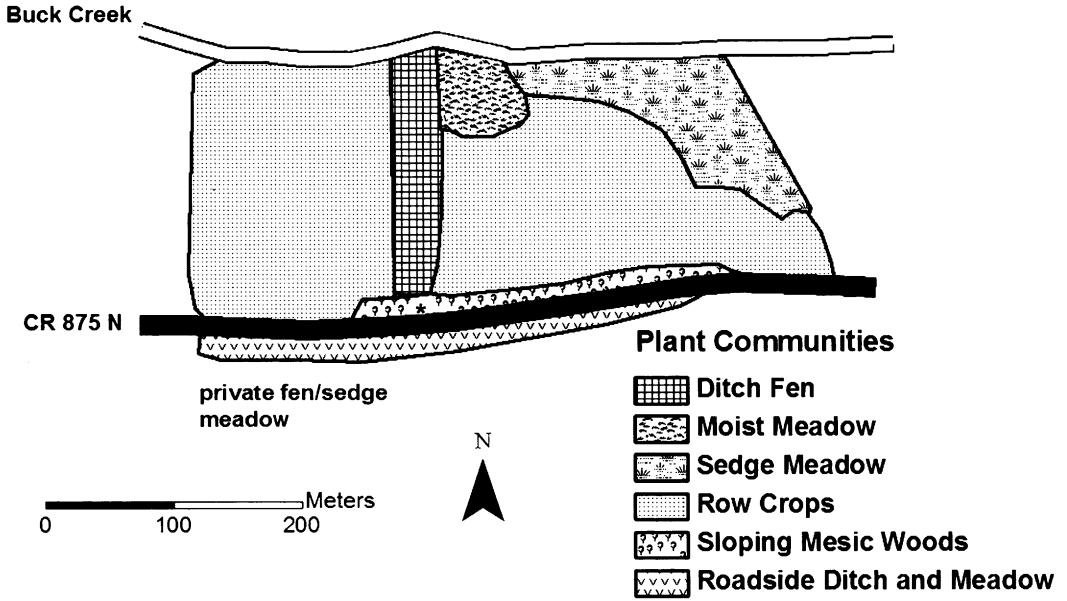


Figure 2.—Diagram illustrating the distribution of the major habitat types in the Bennett wetland complex. The asterisk marks the beginning of the fen on the Bennett property as given by the latitude and longitude coordinates in the Study Area section.

meadow which was not included in this study. As a result of available moisture and the fen/sedge meadow, this ditch has a high diversity of wetland plants and was included in this study. On the Bennett property, there is a large sedge meadow, a moist meadow bordering the northern quarter of the fen, and the fen. The fen is referred to as a “ditch fen” because the Army Corps of Engineers dredged the site four times during the 20th century, the most recent in 1968 (Bennett pers. commun.). Despite efforts to drain the site, the wetland plants have continued to populate the area.

The study site lies in the southern section of the Tipton Till Plain region of the Central Till Plain (Homoya et al. 1985) and occurs in the Upper White River Watershed (USGS Cataloging Unit 05120201). Buck Creek, which receives the water from the fen, empties into the White River near Muncie, Indiana.

According to the Web Soil Survey (WSS 2008), the Bennett wetland complex lies on three soil types. The large sedge meadow is on Martisco muck, described as being very level, very deep, and very poorly-drained soils formed in a thin mantle of well-decomposed organic deposits overlying marl. The moist meadow bordering the northern quarter of the fen, the fen, and the

roadside ditch meadow are on Millgrove loam. Millgrove loam is described as being nearly level, very deep, dark-colored, very poorly-drained soils. Lastly, the mesic woodland lies on Eldean silt loam, described as being sloping, well-drained soils that are moderately deep, overlying calcareous sandy and gravelly material.

METHODS

During the 2005 and 2006 growing seasons, approximately one foray every 7–14 days was made into the study area. Forays were random; but due to the size of the site, all areas were covered. 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 distribution and 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).

Table 1.—Floristic quality summary. C_{av} is the mean coefficient of conservatism and FQI is the floristic quality index.

	Count	C_{av}	FQI
Native species	210	3.8	54.6
Total species	264	3.0	48.7

RESULTS

The catalog of the vascular flora documented at the Bennett wetland complex is listed in Appendix 1. A total of 264 species representing 187 genera from 61 families was collected. Twenty-one families are represented by only one species each. The family with the highest number of species is the Asteraceae (49 spp.) followed by the Poaceae (26 spp.) and the Cyperaceae (17, including 12 *Carex* species). Approximately 52% of the species documented occur in only 7 families, e.g., Rosaceae (12 spp.), Fabaceae (8 spp.), Apiaceae (11 spp.), Lamiaceae (9 spp.), plus the three listed above. Additionally, of the 54 exotics documented, 63% (34 spp.) occurred in the same families minus the Cyperaceae, and 13 were from the Poaceae.

A physiognomic analysis of the flora discloses that, of the 264 species, 210 (79.5%) are native and 54 (20.5%) are exotic (adventive) (Appendix 1). Of the 210 native species, 35 are woody species (trees, shrubs, and vines), 140 species are herbaceous forbs and vines, 30 are graminoid species, and 5 are ferns and their allies. Of the 54 adventive species, 6 are woody species (trees and shrubs), 35 are forbs, and 13 are grasses. The Floristic Quality Indices (FQI) and mean coefficients of conservatism (C_{av}) are shown in Table 1.

Of the 210 native species documented, nine have a coefficient of conservatism of 10, including *Arnoglossum plantagineum*, *Cypripedium candidum*, *Eleocharis elliptica*, *Hierochloa hirta* subsp. *arctica* (= *Hierochloa odorata*), *Hypericum ascyron*, *Lithospermum canescens*, *Lobelia kalmii*, *Prenanthes racemosa*, and *Oligoneuron ohioense*. Five species have C values of 9, including *Carex tetanica*, *Dasiphora fruticosa* var. *floribunda*, *Filipendula rubra*, *Lysimachia quadriflora*, and *Oligoneuron riddellii*. Seven species have C values of 8, including *Cirsium muticum*, *Coreopsis tripteris*, *Liatris spicata*, *Phlox maculata*, *Solidago patula*, *Sym-*

phyotrichum oolentangiense, and *Symplocarpus foetidus*. Additionally, 14 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) and the Irving Materials, Inc. (IMI) wetland complex (Ruch et al. 2008b), eight species documented at the Bennett wetland complex represent Henry County records, including *Comandra umbellata*, *Coreopsis tripteris*, *Cypripedium candidum*, *Hierochloa hirta* subsp. *arctica* (*Hierochloa odorata*), *Hypericum ascyron*, *Hypoxis hirsuta*, *Senna hebecarpa*, and *Sporobolus neglectus*. Lastly, using the list on the Division of Nature Preserves, Indiana Department of Natural Resources website (2007), the status of several plants at the Bennett wetland complex is as follows: Threatened: *Hypericum ascyron*; Watch List: *Cypripedium candidum*, *Filipendula rubra*, *Rhamnus lanceolata*, and *Selaginella apoda*.

HABITAT DESCRIPTIONS

Mesic woodland.—The three most notable plant species occurring in this site were *Hypericum ascyron*, *Cypripedium candidum*, and *Coreopsis tripteris*. The herbaceous layer consists of species typical of mesic woodlands in east-central Indiana (Table 2). Grasses growing at this site were *Phalaris arundinacea* (abundant), *Festuca subverticillata*, *Elymus villosus*, and *Leersia virginica*. Vines and shrubs included *Celastrus scandens*, *Humulus lupulus*, *Parthenocissus quinquefolia*, *Rhamnus lanceolata* var. *glabrata*, *Ribes cynosbati*, and *Smilax tamnoides*. The most frequent trees were *Acer saccharum*, *Celtis occidentalis*, *Fraxinus americana*, *Populus deltoides*, and *Ulmus rubra*.

Roadside ditch and wet meadow.—Because this ditch remained wet the entire growing season and because the ditch was bordered on its south side by an undisturbed, privately-owned fen/sedge meadow, this habitat boasted a very rich biodiversity of hydrophytes. [Since the completion of this study, the county has re-ditched this site.] Spring to mid-summer herbaceous plants included *Acorus calamus*, *Angelica atropurpurea*, five *Carex* spp., *Eleocharis erythropoda*, *Heuchera americana*, *Juncus dudleyi*, *Schoenoplectus tabernaemontani*, *Scirpus atrovirens*, *S. pendulus*, and *Thelypteris palustris*. Mid-summer to fall herbaceous flora included *Carex frankii*, *Desmodium canadense*,

Table 2.—Some of the herbaceous plants occurring in the mesic woodland at the Bennett wetland site; listed by season.

Spring species	Summer species	Late Summer-Fall species
<i>Arisaema dracontium</i>	<i>Circaea lutetiana</i>	<i>Agastache nepetoides</i>
<i>Dodecatheon meadia</i>	<i>Cryptotaenia canadensis</i>	<i>Ageratina altissima</i>
<i>Osmorhiza longistylis</i>	<i>Galium concinnum</i>	<i>Amphicarpaea bracteata</i>
<i>Potentilla simplex</i>	<i>Orbexilum onobrychis</i>	<i>Hackelia virginiana</i>
<i>Sanicula odorata</i>	<i>Phytolacca americana</i>	<i>Lactuca biennis</i>
<i>Triosteum aurantiacum</i>	<i>Smilax lasioneura</i>	<i>Phryma leptostachya</i>
<i>T. perfoliatum</i>		<i>Symphotrichum cordifolium</i>
		<i>Urtica dioica gracilis</i>

Eupatorium perfoliatum, *Euthamia graminifolia*, *Filipendula rubra*, *Galium asprellum*, *Impatiens capensis*, *Lilium michiganense*, *Lobelia siphilitica*, *Oxypolis rigidior*, *Pedicularis lanceolata*, *Pycnanthemum virginianum*, *Symphotrichum puniceum*, and *Typha latifolia*. Grasses growing at the site included *Andropogon gerardii*, *Glyceria striata*, *Leersia oryzoides*, and *Sorghastrum nutans*. Shrubs found at this site included *Cornus racemosa*, *Salix petiolaris*, and *Sambucus nigra* subsp. *canadensis*.

Sedge meadow.—Notable plants occurring in this habitat during the spring were *Carex tetanica*, *C. trichocarpa*, and *Hierochloa hirta* subsp. *arctica* (= *Hierochloa odorata*). During the summer, *Arnoglossum plantagineum*, *Lysimachia quadriflora*, *Pycnanthemum virginianum*, *Senna hebecarpa*, *Silphium integrifolium*, and *S. terebinthinaceum* were common to abundant. In late summer and fall, *Euthamia graminifolia*, *Oligoneuron ohioense*, *O. riddellii*, *Silphium perfoliatum*, and *Symphotrichum novae-angliae* were common to abundant. Throughout the growing season, *Selaginella apoda* grew abundantly along the border of the sedge meadow. Although few shrubs and trees grew at this site, the two most frequent were *Cornus obliqua* and *Salix nigra*.

Moist meadow at northern end of ditch fen.—This site was dominated by grasses and exotic species. Exotic species included *Alliaria petiolata*, *Lamium purpureum*, *Sisymbrium loeselii*, and *Stellaria media*. Native herbaceous species occurring in this meadow were *Impatiens pallida*, *Lactuca canadensis*, *Laportea canadensis*, *Packera glabella*, and *Polygonum scandens*. Grasses included *Bromus inermis*, *Elymus virginicus*, and *Poa compressa*. All grasses were common to abundant. Shrubs and trees included *Juglans nigra* and *Rhus glabra*.

Ditch fen.—On the Bennett property, the fen starts at a large drain pipe that crosses under and drains the uplands south of CR875N. The water from the pipe drains downslope and eventually enters Buck Creek. To minimize the spread of water and make more land available for farming, the Army Corps of Engineers ditched the fen in 1968 (Bennett pers. commun.). *Phalaris arundinacea* covers much of the slope and bottom of the fen, and as a result, many of the quality fen plants grow only in one or two locations and often are represented by only a few individuals. Table 3 lists some of the species observed in the fen during the various seasons.

Although not found during the current study, several species were previously observed in the ditch fen by Byron and Ben Torke. These included *Agalinis purpurea* (L.) Pennell (C = 6), *Gentianopsis virgata* (Raf.) Holub (C = 8), *Parnassia glauca* Raf. (C = 10), *Rhynchospora capillacea* Torr. (C = 10), and *Schizachyrium scoparium* (Michx.) Nash (C = 4). These species were not included in the numerical analysis of the site. They may still be present in the seed bank and removal of *Phalaris arundinacea* from the fen may allow their return.

DISCUSSION

The vascular flora at the Bennett wetland complex includes an assemblage of plants, and consequently plant families, typical for sites in east-central Indiana (Rothrock et al. 1993; Rothrock 1997; Ruch et al. 1998, 2002, 2004, 2007, 2008a, b; Stonehouse et al. 2003). Earlier Ruch et al. (2008b) reported that the wetland complex on the IMI property near Luray, Indiana, had a higher percentage of grasses and sedges (about 20%) when compared to other, non-wetland sites. Although dominated

Table 3.—Some of the herbaceous species occurring in the ditch fen at the Bennett wetland complex; listed by season.

Spring species	Summer species	Late Summer-Fall species
<i>Cardamine bulbosa</i>	<i>Cicuta maculata</i>	<i>Chelone glabra</i>
<i>Carex stricta</i>	<i>Euphorbia corollata</i>	<i>Cirsium muticum</i>
<i>C. tetanica</i>	<i>Monarda fistulosa</i>	<i>Dasiphora fruticosa floribunda</i>
<i>Comandra umbellata</i>	<i>Phlox maculata</i>	<i>Epilobium coloratum</i>
<i>Eleocharis elliptica</i>	<i>Rudbeckia hirta pulcherrima</i>	<i>Helianthus giganteus</i>
<i>Hypoxis hirsuta</i>	<i>Thalictrum revolutum</i>	<i>Liatris spicata</i>
<i>Lithospermum canescens</i>		<i>Lobelia kalmii</i>
<i>Senecio aureus</i>		<i>Physostegia virginiana</i>
<i>Smilacina stellata</i>		<i>Pilea fontana</i>
<i>Symplocarpus foetidus</i>		<i>Prenanthes racemosa</i>
<i>Zizia aurea</i>		<i>Solidago patula</i>
		<i>Symphyotrichum oolentangiense</i>

by wetlands, the complex on the Bennett property did not reveal the same dominance of graminoids - only about 6% (43 species) were graminoids (including 10 species of grass that were observed growing only along the dry roadside). This reduction of graminoids was due to the reduced number of sedges, especially *Carex* spp., found at the site. At IMI, 27 sedge species, including 20 *Carex* spp., were reported, as compared to the Bennett property's 17 sedge species, including 12 *Carex* spp. The reduction in sedge species may be the result of the severe anthropogenic disturbances the site has experienced over the years. On the other hand, the number of species in the Asteraceae is considerably higher. At the Bennett wetland complex, 49 species (~ 19% of the total species) were reported, while at the IMI wetland complex 37 species (~ 13% of the total species) were reported.

The floristic quality index (FQI) for the native flora at the Bennett wetland complex was 54.6, with a mean coefficient of conservatism (C_{av}) of 3.8 (Table 1). Although these values indicate that the site retains noteworthy remnants of a region's natural heritage, this conclusion needs to be tempered with caution. In spite of continued human impact, the values suggest that some quality plants, especially those of the fen, continue to grow at the site. An analysis of the coefficients of conservatism for the plants indicates that 21 (10%) of the native plant species have a C value ≥ 8 , and 35 (17%) of the native plant species have C values ≥ 7 . These numbers are comparable to those reported from the IMI wetland complex (Ruch et al. 2008b). In addition, the C_{av} of 3.8 falls within the values obtained for the best quality

reference sites in central Indiana (Rothrock & Homoya 2005). Although a number of quality plants grow at the site, the number of quality plants does not fully tell the story. Much of the slopes and ditch of the fen is covered by *Phalaris arundinacea*, which grows so thickly that it forms a near monoculture. As a result, many fen plants, such as *Prenanthes racemosa*, *Symphyotrichum oolentangiense*, *Lithospermum canescens*, and *Comandra umbellata*, occur only at one site and are often represented with a low number of individuals. Additionally, Rothrock & Homoya (2005) have suggested that the natural quality of an area is compromised when adventive diversity lowers C_{av} by more than 0.7 units. A comparison of the mean coefficient of conservatism for the native species ($C_{av} = 3.8$) versus the mean coefficient of conservatism for all species ($C_{av} = 3.0$), indicates that the natural quality of the Bennett wetland complex is being impacted by exotic species.

Although floral diversity has been impacted by human activity and the invasion of exotic plant species, the quality of plants at the Bennett wetland complex, based on C_{av} , is superior to most mitigation wetland sites. Smit (2008) conducted a study of 21 MDOT mitigation wetlands ranging in age from 3–15 years. The area sampled within each wetland avoided areas that obviously failed basic wetland criteria even though they may have been part of the mitigation effort. In summary, only 7 of 21 sites were able to attain a native $C_{av} \geq 3.0$, with just four reaching the level of the Bennett site, i.e., C_{av} between 3.5 and 3.9.

As a wetland complex containing fens in east-central Indiana, the Bennett wetland com-

plex does not possess the same quality as the IMI wetland complex (Ruch et al. 2008b). Nonetheless, given the increasing rarity of remnant wetlands in east-central Indiana, and especially groundwater fed communities, it is important to undertake restorative measures. At Cabin Creek Raised Bog (fen), we have observed that the percent cover of native species increases, while the percent cover of exotic species decreases with burning (unpubl. data). Based on these observations and the current quality of the fen, we recommend that the Bennett wetland complex, especially the

fen, be burned at regular intervals and other exotics control measures be instituted.

ACKNOWLEDGMENTS

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APPENDIX 1

CATALOG OF VASCULAR FLORA AT THE BENNETT WETLAND COMPLEX

(arranged alphabetically by family within divisions)

Listed are voucher specimens for all species observed at the Bennett Wetland Complex in 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) recent 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) visual estimate of 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 (Ruch et al. 2002) 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; common = frequent 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, and # = Henry County record. 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), were not reported from Wilbur Wright Fish and Wildlife Area (Ruch et al. 2002) or from the IMI wetland complex (Ruch et al. 2008). (The database of Keller et al. (1984) is the same list of plants for Henry County as the one at the Indiana Natural Heritage Data Center, IDNR.)

The status categories of certain species in brackets, e.g., [Threatened] or [Watch List], were determined using the list of the Divisions of Nature Preserves, Indiana Department of Natural Resources (2007).

DIVISION LYCOPODIOPHYTA

(Lycopods)

Selaginellaceae (Spike Moss Family)

Selaginella apoda (L.) Spring; Meadow Spikemoss, Marsh Club Moss; Border between the sedge meadows and the row crop field; Common at this site; C = 4; BSUH 14714. [Watch List]

DIVISION EQUISETOPHYTA

(Horsetails or Scouring Rushes)

Equisetaceae (Horsetail Family)

Equisetum arvense L.; Common or Field Horsetail; Ditch fen; Common; C = 1; BSUH 14818.

Equisetum hyemale L. var. *affine* (Engelm.) A.A. Eaton; Common or Tall Scouring Rush; Sedge meadow; Rare; C = 2; BSUH 14725.

DIVISION PTERIDOPHYTA

(Ferns)

Ophioglossaceae (Adder's Tongue Family)

Botrychium virginianum (L.) Swartz; Rattlesnake Fern; Open woods south side of CR 875N; Rare; C = 4; BSUH 14907.

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; Sedge meadow and wet ditch; Infrequent; C = 7; BSUH 14879.

DIVISION MAGNOLIOPHYTA

(Angiosperms)

Aceraceae (Maple Family)

Acer negundo L.; Boxelder, Ash-leaved Maple; Roadside meadow; Rare; C = 1; BSUH 14711.

Acer saccharum Marshall; Sugar Maple; Open woods south of CR875N; Rare; C = 4; BSUH 14741.

Acoraceae (Sweet Flag Family)

(*) *Acorus calamus* L.; Sweet Flag, One-Veined Sweetflag; Wet roadside ditch; Rare but locally common; C = 0; BSUH 14911.

Anacardiaceae (Cashew or Sumac Family)

Rhus glabra L.; Smooth Sumac; Banks of ditch fen; Rare but locally common; C = 1; BSUH 14836.

Toxicodendron radicans (L.) Kuntze subsp. *negundo* (Greene) Gillis; Eastern or Common Poison Ivy; Dry roadside and slope woods; Infrequent; C = 1; BSUH 14759.

Apiaceae (Carrot Family)

Angelica atropurpurea L.; Purple-Stem Angelica; Wet roadside ditch; Rare; C = 6; BSUH 14885.

Cicuta maculata L. var. *maculata*; Common or Spotted Water Hemlock; Ditch fen; Rare; C = 6; BSUH 14847.

Cryptotaenia canadensis (L.) DC.; Canadian Honewort; Woods; Infrequent to common; Slope woods; Common; C = 3; BSUH 14872.

(*) *Daucus carota* L.; Wild Carrot, Queen Anne's Lace; Dry roadside; Common; C = 0; BSUH 14831.

Osmorhiza longistylis (Torr.) DC.; Long-styled Sweet Cicely, Aniseroot; Slope woods; Common; C = 3; BSUH 14793.

Oxypolis rigidior (L.) Raf.; Cowbane, Stiff Cowbane, Common Water Dropwort; Wet roadside ditch and ditch fen; Infrequent; C = 7; BSUH 14774.

(*) *Pastinaca sativa* L.; Wild Parsnip; Dry roadside; Common; C = 0; BSUH 14883.

Sanicula canadensis L.; Canada Black Snakeroot, Canada Sanicle; Slope woods and open woods south of CR875N; Rare; C = 2; BSUH 14890.

Sanicula odorata (Raf.) K.M. Pryer & L.R. Phillippe; SYN: *Sanicula gregaria* Bickn.; Cluster Sanicle, Clustered Black Snakeroot; Slope woods; Abundant; C = 2; BSUH 14916.

(*) *Torilis arvensis* (Huds.) Link; Field or Spreading Hedge Parsley; Top edge of ditch fen; Rare; C = 0; BSUH 15848.

Zizia aurea (L.) Koch; Common Golden Alexander, Golden Zizia; Ditch fen; Infrequent; C = 7; BSUH 14825, 14865, 15850.

Apocynaceae (Dogbane Family)

Apocynum cannabinum L.; Dogbane, American Indian Hemp; Bank of ditch fen; Rare; C = 2; BSUH 14869.

Araceae (Arum Family)

Arisaema dracontium (L.) Schott; Green Dragon, Dragon Root; Slope woods; Rare; C = 5; BSUH 14918.

Arisaema triphyllum (L.) Schott; Jack-in-the-Pulpit, Indian Turnip; Slope woods; Infrequent; C = 4; BSUH 14816.

Symplocarpus foetidus (L.) Salisb. ex Nutt.; Skunk Cabbage; Ditch fen and low wet areas of slope woods; Common; C = 8; BSUH 14797.

Asclepiadaceae (Milkweed Family)

Cynanchum laeve (Michx.) Pers.; SYN: *Ampelamus albidus* (Nutt.) Britton; Sandvine, Bluevine, Honeyvine; Bank of ditch fen and roadside; Infrequent; C = 1; BSUH 14705, 14781.

Asclepias syriaca L.; Common Milkweed; Sedge meadow; Common; C = 1; BSUH 14834.

Asteraceae (Aster Family)

Achillea millefolium L.; Common Yarrow; Common Milfoil; Dry roadside; Rare; C = 0; BSUH 14932.

Ageratina altissima (L.) R.M. King & H. Rob.; SYN: *Eupatorium rugosum* Houtt.; White Snakeroot; Slope woods; Infrequent; C = 2; BSUH 14742.

Ambrosia artemisiifolia L. var. *elatior* Descourt.; Common or Annual Ragweed; Dry roadside; Common; C = 0; BSUH 14775.

Ambrosia trifida L.; Giant Ragweed; Banks of ditch fen; Infrequent; C = 0; BSUH 14783.

Arnoglossum plantagineum Raf.; SYN: *Cacalia plantaginea* (Raf.) Shinnery, *Cacalia tuberosa* Nutt.; Tuberous Indian Plantain, Groovestem Indian Plantain, Prairie Indian Plantain; Sedge meadow; Infrequent; C = 10; BSUH 14855.

(*) *Cichorium intybus* L.; Chicory; Dry roadside; Abundant; C = 0; BSUH 14932.

(*) *Cirsium arvense* (L.) Scop.; SYN: *Cirsium arvense* (L.) Scop. var. *horridum* Wimmer & Grab.; Field or Canada Thistle; Open woodland slope; Rare; C = 0; BSUH 14935.

Cirsium discolor (Muhl.) Spreng.; Field or Pasture Thistle; Wet roadside ditch and meadow; Rare; C = 3; BSUH 14682.

Cirsium muticum Michx.; Swamp or Fen Thistle; Ditch fen; Common; C = 8; BSUH 14703.

Conyza canadensis (L.) Cronquist; Horseweed; Dry roadside; Rare; C = 0; BSUH 14709.

(#) *Coreopsis tripteris* L.; Tall Tickseed, Tall Coreopsis; Flat, open edge of mesic woods; Rare but locally frequent; C = 8; BSUH 14708.

Erigeron annuus (L.) Pers.; Annual Fleabane, Eastern Daisy Fleabane; Dry roadside and meadow; Rare; C = 0; BSUH 14888.

Erigeron philadelphicus L.; Philadelphia Daisy, Marsh Fleabane; Meadow north of fen; Infrequent; C = 3; BSUH 14807.

Eupatoriadelphus maculatus (L.) R.M. King & H. Rob.; SYN: *Eupatorium maculatum* L.; Spotted Joe Pye Weed, Spotted Trumpetweed; Open slope woods; Common; C = 5; BSUH 14763.

Eupatorium altissimum L.; Tall Eupatorium, Tall Boneset, Tall Thoroughwort; Sedge meadow; Rare, one large flowering colony; C = 1; BSUH 14693.

Eupatorium perfoliatum L.; Common Boneset; Wet roadside ditch and meadow; Infrequent; C = 4; BSUH 14748.

Euthamia graminifolia (L.) Nutt. ex Cass. var. *graminifolia*; SYN: *Solidago graminifolia* (L.) Salisb.; Common Flat-Topped Goldenrod; Ditch fen and roadside ditch and meadow north of fen; Infrequent; C = 3; BSUH 14685.

(*) *Galinsoga quadriradiata* Cav.; Common Quickweed, Peruvian Daisy, Shaggy Soldier; Slope woods; Rare; C = 0; BSUH 14697.

Helianthus giganteus L.; Giant, Tall or Swamp Sunflower; Ditch fen; Common; C = 6; BSUH 14704.

Helianthus helianthoides (L.) Sweet; Sunflower Everlasting, False Sunflower, Smooth Oxeye; Ditch and open woods south of CR875N; Rare; C = 4; BSUH 14749.

Lactuca biennis (Moench) Fernald; Tall Blue Lettuce; Slope woods; Rare; C = 2; BSUH 14695.

Lactuca canadensis L.; Tall or Canada Wild Lettuce; Dry roadside and meadow north of fen; Infrequent; C = 2; BSUH 14789.

(*) *Lactuca serriola* L.; Prickly Lettuce; Dry roadside; Rare but locally frequent; C = 0; BSUH 14754.

Liatis spicata (L.) Willd. var. *spicata*; Marsh, Dense, or Sessile Blazing Star; Ditch fen; Common; C = 8; BSUH 14784.

Oligoneuron ohioense (Frank ex Riddell) G.N. Jones; SYN: *Solidago ohioensis* Riddell; Ohio Goldenrod; Sedge meadow; Common; C = 10; BSUH 14715.

Oligoneuron riddellii (Frank ex Riddell) Rydb.; *Solidago riddellii* Frank.; Riddell's Goldenrod; Sedge meadow; Abundant; C = 9; BSUH 14679.

Packera aurea (L.) Á. Löve & D. Löve; SYN: *Senecio aureus* L.; Heart-leaved Groundsel, Golden Ragwort; Ditch fen; Common; C = 4; BSUH 14830.

Packera glabella (Poir.) C. Jeffrey; SYN: *Senecio glabellus* Poir.; Yellowtop, Butterweed; Meadow north of fen; Rare but locally common; C = 0; BSUH 14806.

Prenanthes racemosa Michx. var. *racemosa*; Glaucous White Lettuce, Glaucous or Purple Rattlesnake-Root; Ditch fen; Rare; C = 10; BSUH 14677.

Ratibida pinnata (Vent.) Barnhart; Globular, Pinnate Prairie, or Gray-Headed Coneflower; Roadside ditch and meadow; Rare but locally abundant; C = 5; BSUH 14757.

Rudbeckia hirta L. var. *pulcherrima* Farw.; Black-Eyed Susan; Ditch fen and sedge meadow; Common; C = 2; BSUH 14868.

Silphium integrifolium Michx. var. *integrifolium*; Prairie Rosinweed, Entire-Leaved Rosinweed; Sedge meadow; Abundant; C = 7; BSUH 14837.

Silphium perfoliatum L. var. *perfoliatum*; Cup Plant; Sedge meadow; Infrequent; C = 4; BSUH 14790.

Silphium terebinthinaceum Jacq. var. *terebinthinaceum*; Prairie Dock, Prairie Rosinweed, Basal-Leaved Rosinweed; Sedge meadow; Common; C = 6; BSUH 14838.

Solidago altissima L.; SYN: *Solidago canadensis* L. var. *scabra* Torr. & A. Gray; Common, Tall, or Canada Goldenrod; Roadside ditch and meadow; Infrequent; C = 0; BSUH 14939.

Solidago gigantea Aiton; Giant, Late, or Smooth Goldenrod; Ditch fen; Rare; C = 4; BSUH 14701.

Solidago patula Muhl.; Rough-Leaved or Round-leaf Goldenrod; Ditch fen; Common; C = 8; BSUH 14724.

(*) *Sonchus asper* (L.) Hill; Prickly or Spiny Sow Thistle; Dry roadside; Rare; C = 0; BSUH 14674.

Symphyotrichum cordifolium (L.) G.L. Nesom; SYN: *Aster cordifolius* L.; Common Blue Wood Aster, Common Blue Heart-Leaved Aster; Slope woods; Rare; C = 5; BSUH 14678.

Symphyotrichum firmum (Nees) G.L. Nesom; SYN: *Aster firmis* Nees; Shining Aster, Shiny-Leaved Aster; Wet roadside ditch and meadow; Common; C = 4; BSUH 14669.

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; Wet roadside ditch and meadow; Infrequent; C = 3; BSUH 14668.

Symphyotrichum novae-angliae (L.) G.L. Nesom; SYN: *Aster novae-angliae* L.; New England Aster; Sedge meadow; Infrequent; C = 3; BSUH 14694.

Symphyotrichum oolentangiense (Riddell) G.L. Nesom var. *oolentangiense*; SYN: *Aster oolentangiensis* Riddell, *Aster azureus* Lindl.; Skyblue Aster, Azure Aster; Ditch fen; Rare; C = 8; BSUH 14689.

Symphyotrichum pilosum (Willd.) G.L. Nesom var. *pilosum*; SYN: *Aster pilosus* Willd. var. *pilosus*; Awl Aster, Hairy White Old-Field Aster; Dry roadside and open slope woods; Infrequent; C = 0; BSUH 14671.

Symphyotrichum puniceum (L.) Á. Löve & D. Löve; SYN: *Aster puniceus* L.; Bristly Aster, Purple-Stem Aster; Wet roadside ditch and meadow; Infrequent; C = 7; BSUH 14683.

(*) *Taraxacum officinale* F.H.Wigg; Common Dandelion; Dry roadside and top of slope of ditch fen; Rare; C = 0; BSUH 14728.

(*) *Tragopogon dubius* Scop.; Fistulous or Sand Goat's Beard, Yellow Salsify; Dry roadside; Rare; C = 0; BSUH 14902.

Verbesina alternifolia (L.) Britton; Wingstem; Open woods south of CR875N; Rare; C = 3; BSUH 14747.

Vernonia gigantea (Walter) Trel. subsp. *gigantea*; Tall Ironweed; Dry roadside; Infrequent; C = 2; BSUH 14758.

Balsaminaceae (Touch-me-not Family)

Impatiens capensis Meerb.; Orange or Spotted Touch-Me-Not or Jewelweed; Wet ditch and meadow; Infrequent; C = 2; BSUH 14756.

Impatiens pallida Nutt.; Pale or Yellow Touch-Me-Not or Jewelweed; Meadow north of fen; Rare; C = 4; BSUH 14842.

Boraginaceae (Borage Family)

Hackelia virginiana (L.) I.M. Johnston.; Stickseed, Beggar's Lice; Slope woods; Rare; C = 0; BSUH 14770.

Lithospermum canescens (Michx.) Lehm.; Hoary Puccoon; Ditch fen; Rare but locally frequent; C = 10; BSUH 14829.

Brassicaceae (Mustard Family)

(*) *Alliaria petiolata* (Bieb.) Cavara & Grande; Garlic Mustard; Meadow north of fen; Infrequent; C = 0; BSUH 14809.

(*) *Barbarea vulgaris* W.T. Aiton; Yellow Rocket; Dry roadside; Rare; C = 0; BSUH 14905.

Cardamine bulbosa (Schreb. ex Muhl.) B.S.P.; SYN: *Cardamine rhomboidea* (Pers.) DC.; Bulbous Bittercress, Spring Cress; Ditch fen; Abundant; C = 4; BSUH 14801.

(*) *Erysimum cheiranthoides* L.; Wormseed Mustard, Wormseed Wallflower; Edge of mesic woods next to row crop field; Rare but locally frequent; C = 0; BSUH 14854.

(*) *Lepidium campestris* (L.) W.T. Aiton; Field Peppergrass or Pepperweed, Cow Cress; Dry roadside; Rare; C = 0; BSUH 14813.

(*) *Sisymbrium loeselii* L.; Tall Hedge Mustard, Small Tumbleweed Mustard; Meadow north of fen; Common; C = 0; BSUH 14804.

Campanulaceae (Bellflower Family)

Campanulastrum americanum (L.) Small; SYN: *Campanula americana* L.; Tall or American Bellflower; Roadside meadow and slope woods; Infrequent; C = 4; BSUH 14735.

Lobelia inflata L.; Indian Tobacco; Open woods south of CR875N; Rare; C = 3; BSUH 14700.

Lobelia kalmii L.; Kalm's Lobelia, Ontario Lobelia; Ditch fen; Rare; C = 10; BSUH 14691.

Lobelia siphilitica L.; Great Blue Lobelia; Wet roadside ditch and meadow; Common; C = 3; BSUH 14710.

Cannabinaceae (Indian Hemp Family)

Humulus lupulus L. var. *lupuloides* E. Small; Common Hops; Open slope woods and meadow; Infrequent but locally common; C = 5; BSUH 14923.

Caprifoliaceae (Honeysuckle Family)

(*) *Lonicera × bella* Zabel; Showy Fly Honeysuckle; Roadside in slope woods; Rare; C = 0; BSHU 14812.

(*) *Lonicera maackii* (Rupr.) Herder; Amur Honeysuckle; Slope woods; Infrequent; C = 0; BSUH 14926.

Sambucus nigra L. subsp. *canadensis* (L.) R. Bolli; SYN: *Sambucus canadensis* L.; Common Elder or Elderberry; Wet ditch and open woods south of CR876N; Rare; C = 2; BSUH 14889.

Triosteum aurantiacum E.P. Bicknell var. *aurantiacum*; Orange-Fruit Horse Gentian; Slope woods; Rare; C = 5; BSUH 14873.

Triosteum perfoliatum L.; Perfoliate Horse Gentian, Feverwort; Slope woods; Rare, but locally common; C = 5; BSUH 14915.

Viburnum prunifolium L.; Black Haw; Bank of ditch fen (west side); Rare; C = 4; BSUH 14823.

Caryophyllaceae (Pink Family)

(*) *Cerastium fontanum* Baumg. subsp. *vulgare* (Hartm.) Greuter & Burdet; SYN: *Cerastium vulgatum* L.; Common Mouse-Ear Chickweed, Big Chickweed; Dry roadside; Rare; C = 0; BSUH 14898.

(*) *Saponaria officinalis* L.; Soapwort, Bouncing Bet; Dry roadside; Infrequent; C = 0; BSUH 14761.

(*) *Silene latifolia* Poir. subsp. *alba* (Mill.) Greuter & Burdet; SYN: *Lychnis alba* Mill.; White Campion, White Cockle, Evening Campion; Wet ditch and open woods on south side of CR875N; Infrequent but locally common; C = 0; BSUH 14738.

(*) *Stellaria media* (L.) Vill.; Common Chickweed; Meadow north of fen; Common; C = 0; BSUH 14805.

Celastraceae (Staff-tree Family)

Celastrus scandens L.; American or Climbing Bittersweet; Slope woods and bank of ditch fen; Infrequent; C = 2; BSUH 14845.

Clusiaceae (Mangosteen Family)

(#) *Hypericum ascyron* L.; SYN: *Hypericum pyramidatum* Aiton; Great St. John's Wort; Flat, open edge of mesic woods; Rare but locally frequent; C = 10; BSUH 14937. [Threatened]

Convolvulaceae (Morning-glory Family)

Calystegia sepium (L.) R. Br.; American or Hedge Bindweed; Roadside and meadows; Common; C = 1; BSUH 14881.

(*) *Ipomoea hederacea* Jacq.; Ivy-Leaved Morning Glory; Roadside; Rare; C = 0; BSUH 14673.

Ipomoea pandurata (L.) G. Mey.; Wild Potato, Man-of-the-Earth; Sedge meadow and roadside; Infrequent; C = 3; BSUH 14672.

Cornaceae (Dogwood Family)

Cornus obliqua Raf.; SYN: *Cornus amomum* Miller var. *schuetzeana* (C.A. Mey.) Rickett; Knob-Styled Dogwood, Silky Dogwood; Sedge meadow; Infrequent; C = 5; BSUH 14853.

Cornus drummondii C.A. Mey.; Rough-Leaved Dogwood; Top of bank of ditch fen (west side); Rare; C = 2; BSUH 14864.

Cornus racemosa Lam.; Northern Swamp Dogwood, Gray Dogwood; Edge of slope woods; Rare; C = 2; BSUH 14852.

Cyperaceae (Sedge Family)

Carex frankii Kunth; Bristly Cattail or Frank's Sedge; Wet roadside ditch; Rare; C = 2; BSUH 14737.

Carex granularis Muhl.; Pale Sedge, Limestone Meadow Sedge; Ditch fen; Infrequent; C = 2; BSUH 14920.

Carex grisea Wahlenb.; Wood Gray Sedge, Inflated Narrow-Leaf Sedge; Open woods; Rare; C = 2; BSUH 14940.

Carex hystericina Willd.; Porcupine Sedge, Bottlebrush Sedge; Wet roadside ditch; Rare; C = 5; BSUH 14912.

Carex laevivaginata (Kük.) Mack.; Smooth-Sheathed Fox Sedge; Ditch fen; Rare; C = 7; BSUH 14819.

Carex lurida Wahlenb.; Bottlebrush Sedge; Wet roadside ditch; Rare; C = 4; BSUH 14929.

Carex pellita Willd.; Broad-leaved Woolly Sedge, Woolly Sedge; Wet roadside ditch and meadow; Rare; C = 2; BSUH 14914.

Carex stipata Willd.; Common Fox Sedge, Owl-fruit Sedge; Wet roadside ditch and meadow; Infrequent; C = 2; BSUH 14817.

Carex stricta Lam.; Common Tussock Sedge, Upright Sedge; Ditch fen and sedge meadow; Abundant; C = 5 BSUH 14811.

Carex tetanica Schkuhr; Common Stiff Sedge, Rigid Sedge; Ditch fen; Rare; C = 9; BSUH 14824.

Carex trichocarpa Muhl. ex Willd.; Hairy-Fruited Lake Sedge; Sedge meadow; Rare; C = 4; BSUH 14856.

Carex vulpinoidea Michx.; Brown Fox Sedge; Wet roadside ditch and meadow; Rare; C = 2; BSUH 14875.

Eleocharis elliptica Kunth; Golden-Seed Spike Rush, Elliptic Spike Rush; Ditch fen; Common; C = 10; BSUH 14919.

Eleocharis erythropoda Steud.; Red-Rooted Spike Rush, Bald Spike Rush; Wet roadside ditch and meadow; Rare; C = 2; BSUH 14925.

Schoenoplectus tabernaemontani (C.C. Gmel.) Palla; SYN: *Scirpus validus* Vahl; Soft-Stem Bulrush; Wet roadside ditch and meadow; Rare; C = 4; BSUH 14893.

Scirpus atrovirens Willd.; Dark Green Bulrush, Green Bulrush; Roadside ditches and meadow; Common; C = 4; BSUH 14928.

Scirpus pendulus Muhl.; Red Bulrush, Rufous Bulrush; Wet roadside ditch; Rare; C = 2; BSUH 15849.

Elaeagnaceae (Oleaster Family)

(*) *Elaeagnus umbellata* Thunb.; Autumn Olive; Open slope woods; Rare; C = 0; BSUH 14766.

Euphorbiaceae (Spurge Family)

Euphorbia corollata L. var. *corollata*; Flowering Spurge; Ditch fen; Rare; C = 4; BSUH 14787.

Chamaesyce maculata (L.) Small; SYN: *Euphorbia maculata* L., *Euphorbia supina* Raf.; Milk Purslane, Spotted Spurge, Creeping Spurge, Spotted Sandmat; Roadside; Infrequent; C = 0; BSUH 14670.

Chamaesyce nutans (Lag.) Small; SYN: *Euphorbia nutans* Lag., *Euphorbia maculata* auct. non L.; Eyebane, Nodding Spurge; Roadside; Abundant; C = 0; BSUH 14706, 14765.

Fabaceae (Pea or Bean Family)

Amphicarpaea bracteata (L.) Fernald; Hog Peanut; Slope woods; Common; C = 5; BSUH 14707.

Apios americana Medik.; Common Ground Nut, Wild Bean; Ditch and open woods south of CR875N; Rare but locally common; C = 3; BSUH 14753.

Desmodium canadense (L.) DC.; Canadian Tick Trefoil, Showy Tick Trefoil; Wet roadside ditch and ditch fen; Infrequent; C = 3; BSUH 14755, 14846.

(*) *Medicago lupulina* L.; Black Medic; Dry roadside; Rare; C = 0; BSUH 14884.

(*) *Medicago sativa* L.; Common Alfalfa; Dry roadside; Rare; C = 0; BSUH 14746.

(*) *Melilotus officinalis* (L.) Lam.; SYN: *Melilotus albus* Medik., *Melilotus officinale* (L.) Pall.; Yellow Sweet Clover, White Sweet Clover, White Melilot; Dry roadside; Rare; C = 0; BSUH 14762, 14886.

Orbexilum onobrychis (Nutt.) Rydb.; SYN: *Psoralea onobrychis* Nutt.; French Grass, Sainfoin, Sampson's Snakeroot; Roadside and edge of slope woods; Rare but locally abundant; C = 4; BSUH 14871.

(*) *Securigera varia* (L.) Lassen; SYN: *Coronilla varia* L.; Crown Vetch; Roadside; Rare; C = 0; BSUH 14764.

(#) *Senna hebecarpa* (Fernald) Irwin & Barneby; SYN: *Cassia hebecarpa* Fernald; Northern Wild Senna, American Senna; Sedge meadow; Infrequent but locally frequent; C = 4; BSUH 14839.

(*) *Trifolium campestre* Schreb.; SYN: *Trifolium procumbens* L.; Pinnate Hop Clover, Field Clover; Roadside; Rare; C = 0; BSUH 14882.

(*) *Trifolium pratense* L.; Red Clover; Roadside; Infrequent; C = 0; BSUH 14903.

(*) *Trifolium repens* L.; White Clover; Roadside; Rare; C = 0; BSUH 14896.

Grossulariaceae (Gooseberry or Currant Family)

Ribes americanum Mill.; Eastern Black Current; Ditch fen; Rare; C = 5; BSUH 14822.

Ribes cynosbati L.; Dogberry, Eastern Prickly Gooseberry, Dogberry; Slope woods; Rare; C = 4; BSUH 14794.

Iridaceae (Iris Family)

Iris virginica L. var. *shrevei* (Small) E. Anderson; Southern Blue Flag, Shreve's Iris; Moist to wet slope in open slope woods; Infrequent but locally common; C = 5; BSUH 14874.

Sisyrinchium angustifolium Mill.; Stout Blue-Eyed Grass; Ditch fen; Infrequent; C = 3; BSUH 14802.

Juglandaceae (Walnut Family)

Juglans nigra L.; Black Walnut; Meadow north of fen; Infrequent; C = 2; BSUH 14924.

Juncaceae (Rush Family)

Juncus dudleyi Wiegand; Dudley's Rush; Moist open areas of slope woods and in the sedge meadow; Infrequent to common; C = 2; BSUH 14894.

Lamiaceae (Mint Family)

Agastache nepetoides (L.) Kuntze; Yellow or Catnip Giant Hyssop; Slope woods; Rare; C = 4; BSUH 16007.

(*) *Lamium purpureum* L. var. *purpureum*; Purple Dead Nettle; Meadow north of fen; Infrequent; C = 0; BSUH 14808.

Lycopus americanus Muhl.; Common or American Water Horehound; Sedge meadow; Common; C = 3; BSUH 14716.

Monarda fistulosa L.; Wild Bergamot; Ditch fen; Infrequent; C = 3; BSUH 14849.

Physostegia virginiana (L.) Benth. subsp. *virginiana*; Obedience Plant; Ditch fen; Common; C = 5; BSUH 14723, 14786.

(*) *Prunella vulgaris* L.; Common Self Heal, Lawn Prunella (exotic); Roadside; Rare; C = 0; BSUH 14773.

Pycnanthemum virginianum (L.) Durand & B.D. Jackson; Virginia Mountain Mint; Sedge meadow and wet roadside ditch and meadow; Common; C = 5; BSUH 14732.

Stachys tenuifolia Willd. var. *tenuifolia*; SYN: *Stachys hispida* Pursh, *Stachys tenuifolia* Willd. var. *hispida* (Pursh) Fernald; Smooth Hedge Nettle,

Hispid Hedge Nettle; Wet ditch and open woodlands south of CR875N; Rare; C = 4; BSUH 14791.

Teucrium canadense L. var. *virginicum* (L.) Eaton; American Germander; Wet ditch and meadow; Rare; C = 3; BSUH 14778.

Liliaceae (Lily Family)

Allium canadense L.; Wild or Meadow Garlic, Wild Onion; Slope woods; Infrequent; C = 1; BSUH 14687.

(*) *Asparagus officinalis* L.; Asparagus; Open slope woods near road; Rare; C = 0; BSUH 15845.

(#) *Hypoxis hirsuta* (L.) Coville; Common or Yellow Stargrass, Common Goldstar; Ditch fen and sedge meadow; Common; C = 7; BSUH 14921.

Lilium michiganense Farw.; Michigan Lily; Wet roadside ditch and meadow; Rare but locally common; C = 5; BSUH 14729.

Polygonatum biflorum (Walter) Elliot var. *commutatum* (Schult. & Schult. f.) Morong; Great Smooth Solomon's Seal; Open slope woods; Infrequent; C = 4; BSUH 14897, 14930.

Maianthemum stellatum (L.) Link; SYN: *Smilacina stellata* (L.) Desf.; Starry False Solomon's Seal, Feathery Solomon's Plume, Starry False Lily of the Valley; Ditch fen; Rare; C = 6; BSUH 14798.

Moraceae (Mulberry Family)

(*) *Morus alba* L.; White Mulberry; Edge of slope woods; Rare; C = 0; BSUH 14739.

Morus rubra L. var. *rubra*; Red Mulberry; Slope woods; Rare; C = 4; BSUH 14667.

Oleaceae (Olive Family)

Fraxinus americana L.; White Ash; Slope woods and open woodland south of CR875N; Infrequent; C = 4; BSUH 14922.

Fraxinus pennsylvanica Marshall var. *subintegririma* (Vahl) Fernald.; SYN: *Fraxinus pennsylvanica* Marshall var. *lanceolata* (Borkh.) Sarg.; Green Ash; Slope woods and bank of ditch fen; Infrequent; C = 1; BSUH 14799.

Onagraceae (Evening-Primrose Family)

Circaea lutetiana L. subsp. *canadensis* (L.) Aschers. & Magnus; Broadleaf Enchanter's Nightshade; Slope woods; Common; C = 2; BSUH 14767.

Epilobium coloratum Biehler; Eastern Willow Herb, Cinnamon Willow Herb, Purple-Leaf Willow Herb; Ditch fen; Rare; C = 3; BSUH 14692.

Oenothera biennis L.; Common Evening Primrose; Dry roadside; Rare; C = 0; BSUH 4743.

Orchidaceae (Orchid Family)

(#) *Cypripedium candidum* Muhl. ex Willd.; White Lady's Slipper; Slope woods; Rare but locally common; C = 10; BSUH 14908. [Watch List].

Oxalidaceae (Wood Sorrel Family)

Oxalis stricta L.; SYN: *Oxalis dillenii* Jacq.; Tall or Common Yellow Wood Sorrel; Ditch fen; Rare; C = 0; BSUH 14850.

Phytolaccaceae (Pokeweed Family)

Phytolacca americana L.; American Pokeweed or Pokeberry; Slope woods; Rare; C = 0; BSUH 14771.

Plantaginaceae (Plantain Family)

(*) *Plantago lanceolata* L.; English Plantain, Buckhorn; Roadside; Rare; C = 0; BSUH 14904.

Plantago rugelii Decne.; American or Red-Stalked Plantain; Dry roadside; Common; C = 0; BSUH 14760.

Platanaceae (Plane-tree Family)

Platanus occidentalis L.; American Sycamore, Buttonwood; Ditch fen; Rare; C = 3; BSUH 14820.

Poaceae (Grass Family)

(*) *Agrostis gigantea* Roth; Redtop; Wet roadside ditch and meadow; Infrequent; C = 0; BSUH 14730.

Andropogon gerardii Vitman; Big Bluestem; Wet roadside ditch and meadow; Common; C = 5; BSUH 14777.

(*) *Bromus arvensis* L.; SYN: *Bromus japonicus* Thunb.; Japanese Chess, Field Brome; Roadside; Rare; C = 0; BSUH 14942.

(*) *Bromus inermis* Leyss.; Smooth or Hungarian Brome; Meadow north of fen; Common; C = 0; BSUH 14857.

(*) *Dactylis glomerata* L.; Orchard Grass; Roadside; Rare; C = 0; BSUH 14906.

Dichanthelium acuminatum (Sw.) Gould & C.A. Clark var. *fasciculatum* (Torr.) Freckmann; SYN: *Panicum implicatum* Britton, *Panicum lanuginosum* Elliot var. *implicatum* (Scribn.) Fernald; Woolly, Western, or Old-Field Panic Grass; Ditch fen; Rare; C = 2; BSUH 14861.

(*) *Digitaria ischaemum* (Schreb.) Schreb. ex Muhl.; Smooth Crabgrass; Roadside; Abundant; C = 0; BSUH 14681.

(*) *Elymus repens* (L.) Gould; SYN: *Elytrigia repens* (L.) Nevski; Quack Grass; Wet ditch and roadside; Rare; C = 0; BSUH 14877.

Elymus riparius Wiegand; Streambank Wild Rye; Wet ditch and open woods south of CR875N; Rare but locally frequent; C = 5; BSUH 14740.

Elymus villosus Muhl. ex Willd.; Downy or Hairy Wild Rye; Slope woods; Infrequent; C = 4; BSUH 14851.

Elymus virginicus L.; Virginia Wild Rye; Meadow north of fen; Common; C = 3; BSUH 14858.

Festuca subverticillata (Pers.) E. Alexeev; SYN: *Festuca obtusa* Biehler; Nodding Fescue; Slope woods; Rare; C = 4; BSUH 15847.

Glyceria striata (Lam.) Hitchc.; Fowl Manna Grass; Wet roadside ditch and meadow; Common; C = 4; BSUH 14891.

(#) *Hierochloa hirta* (Schrank) Borbás ssp. *arctica* (J. Presl) G. Weim.; SYN: *Hierochloa odorata* (L.) P. Beauv. ssp. *arctica* (J. Presl) Tzvelev; Northern Sweetgrass; Sedge meadow; Infrequent; C = 10; BSUH 14814.

Leersia oryzoides (L.) Sw.; Rice Cut Grass; Wet roadside ditch and meadow; Common; C = 2; BSUH 14680.

Leersia virginica Willd.; White Grass; Slope woods; Infrequent; C = 4; BSUH 14686.

(*) *Phalaris arundinacea* L.; Reed Canary Grass; Open slope woods; Abundant and spreading; C = 0; BSUH 14892.

(*) *Poa compressa* L.; Canada Bluegrass; Meadow north of fen and slope woods; Infrequent; C = 0; BSUH 14859.

(*) *Poa pratensis* L.; Kentucky Bluegrass; Roadside; Abundant; C = 0; BSUH 14895.

(*) *Schedonorus phoenix* (Scop.) Holub; SYN: *Festuca arundinacea* Schreb., *Festuca elatior* L. var. *arundinacea* (Schreb.) Wimm., *Lolium arundinaceum* (Schreb.) Darbysh.; Tall Fescue; Wet roadside ditch and meadow; Abundant; C = 0; BSUH 14878.

(*) *Setaria faberi* R.A.W. Herrm.; Nodding or Giant Foxtail Grass; Roadside; Infrequent; C = 0; BSUH 14726.

(*) *Setaria pumila* (Poir.) Roem. & Schult. subsp. *pumila*; SYN: *Setaria glauca* (L.) P. Beauv.; Yellow Foxtail Grass; Roadside; Infrequent; C = 0; BSUH 14772.

Sorghastrum nutans (L.) Nash; Indian Grass; Wet roadside ditch and meadow; Common; C = 4; BSUH 14699.

(*) *Sorghum halepense* (L.) Pers.; Johnson Grass; Roadside; Rare; C = 0; BSUH 14938.

(#) *Sporobolus neglectus* Nash; Small Rush Grass, Puff-Sheath Dropseed; Edge of ditch fen and row crop field; Rare; C = 1; BSUH 14941.

Tridens flavus (L.) Hitchc.; Common Purpletop, Purpletop Tridens; Roadside; Infrequent; C = 1; BSUH 14702.

Polemoniaceae (Phlox Family)

Phlox maculata L.; Meadow Phlox, Wild Sweet William; Ditch fen; Infrequent; C = 8; BSUH 14848.

Polygonaceae (Smartweed Family)

Polygonum scandens L.; SYN: *Fallopia scandens* (L.) Holub; Climbing False Buckwheat; Meadow north of fen; Infrequent; C = 0; BSUH 14690.

(*) *Rumex crispus* L.; Curly Dock; Wet ditch; Rare; C = 0; BSUH 14933.

(*) *Rumex obtusifolius* L.; Bitter Dock; Wet ditch; Rare; C = 0; BSUH 15844.

Primulaceae (Primrose Family)

Dodecatheon meadia L. subsp. *meadia*; Eastern Shooting Star, Pride-of-Ohio; Slope woods; Rare but locally common; C = 7; BSUH 14909.

Lysimachia ciliata L.; Fringed Loosestrife; Ditch fen; Rare; C = 4; BSUH 14785.

Lysimachia quadriflora Sims; Smooth Loosestrife, Four-Flowered Yellow Loosestrife; Sedge meadow; Common; C = 9; BSUH 14835.

Ranunculaceae (Buttercup Family)

Actaea pachypoda Elliot; SYN: *Actaea alba* (L.) Miller; Doll's Eyes, White Baneberry; Slope woods; Rare; C = 7; BSUH 14913.

Anemone virginiana L.; Tall Anemone, Tall Thimbleweed; Ditch fen; Rare; C = 4; BSUH 14936.

Caltha palustris L.; Marsh Marigold; Ditch fen; Rare but locally common; C = 7; BSUH 14826.

Ranunculus abortivus L.; Small-Flowered Crow-foot, Little-Leaf Buttercup; Ditch fen; Common; C = 0; BSUH 14828.

Thalictrum revolutum DC.; Skunk, Waxy, or Wax-Leaf Meadow Rue; Ditch fen; Common; C = 5; BSUH 14866, 14867.

Rhamnaceae (Buckthorn Family)

Rhamnus lanceolata Pursh ssp. *glabrata* (Gleason) Kartesz & Gandhi; SYN: *Rhamnus lanceolata* Pursh var. *glabrata* Gleason; Lanceleaf Buckthorn; Slope woods next to creek; Rare; C = 4; BSUH 14796, 14844.

Rosaceae (Rose Family)

Agrimonia parviflora Aiton; Southern, Swamp, or Few-Flowered Agrimony; Wet roadside ditch and meadow; Infrequent; C = 4; BSUH 14776.

Crataegus mollis (Torr. & A. Gray) Scheele; Downy Hawthorn; Open woods south of CR875N; Rare; C = 2; BSUH 15846.

Dasiphora fruticosa (L.) Rydb. ssp. *floribunda* (Pursh) Kartesz; SYN: *Pentaphylloides floribunda* (Pursh) Á. Löve, *Potentilla fruticosa* L.; Shrubby Cinquefoil; Ditch fen and sedge meadow; Rare; C = 9; BSUH 14840.

Filipendula rubra (Hill) B.L. Rob.; Queen of the Prairie; Wet ditch and meadow; Infrequent; C = 9; BSUH 14731. [Watch List]

Fragaria virginiana Duchesne; Thick-leaved Wild Strawberry, Virginia Strawberry; Ditch fen; Common; C = 2; BSUH 14827.

Geum canadense Jacq.; White Avens; Roadside and slope woods; Rare; C = 1; BSUH 14887.

Potentilla norvegica L. subsp. *monspeliensis* (L.) Aschers. & Graebn.; Strawberry Weed, Rough Cinquefoil, Norwegian Cinquefoil; Sedge meadow; Rare; C = 0; BSUH 14841.

(*) *Potentilla recta* L.; Sulphur Five-Fingers, Sulphur Cinquefoil; Roadside; Rare; C = 0; BSUH 14734.

Potentilla simplex Michx.; Old-Field Five Fingers, Old-Field Cinquefoil, Common Cinquefoil; Slope woods; Rare; C = 2; BSUH 14917.

(*) *Rosa multiflora* Thunb.; Multiflora or Japanese Rose; Open woods south of CR875N; Rare; C = 0; BSUH 14744.

Rosa setigera Michx.; Climbing Prairie Rose, Illinois Rose; Ditch fen; Infrequent; C = 4; BSUH 14934.

Rosa virginiana Mill.; Virginia Rose; Bank of ditch fen; Rare; C = 4; BSUH 14862.

Rubus occidentalis L.; Black Raspberry; Roadside and meadow; Rare; C = 1; BSUH 14901.

Rubiaceae (Madder Family)

Galium aparine L.; Cleavers, Annual Bedstraw; Ditch fen; Common; C = 1; BSUH 14800.

Galium asprellum Michx.; Rough Bedstraw; Wet ditch and meadow; Infrequent but locally common; C = 7; BSUH 14750.

Galium concinnum Torr. & A. Gray; Shining Bedstraw; Slope woods; Infrequent; C = 5; BSUH 14870.

Galium triflorum Michx.; Sweet-scented or Fragrant Bedstraw; Slope woods and open woods south of CR875N; Infrequent but locally common; C = 5; BSUH 14751.

Salicaceae (Willow Family)

Populus deltoides Marshall var. *deltoides*; Eastern Cottonwood; Slope woods; Rare; C = 1; BSUH 14795.

Salix discolor Muhl.; Pussy Willow; Ditch fen; Rare; C = 3; BSUH 14860.

Salix eriocephala Michx.; Diamond or Heart-Leaved Willow; Ditch fen and wet areas of slope woods; Infrequent; C = 4; BSUH 14792.

Salix nigra Marshall; Black Willow; Sedge meadow; Rare but locally common; C = 3; BSUH 14927.

Salix petiolaris J.E. Sm.; Petioled Willow, Meadow Willow; Wet roadside ditch; Rare; C = 6; BSUH 14876.

Santalaceae (Sandalwood Family)

(#) *Comandra umbellata* (L.) Nutt. subsp. *umbellata*; Star or Bastard Toad Flax; Ditch fen; Rare, one large colony on upper slope of fen; C = 7; BSUH 14803.

Saxifragaceae (Saxifrage Family)

Heuchera americana L.; American, Common, or Tall Alumroot; Roadside ditch and meadow; Rare but locally frequent; C = 7; BSUH 14910.

Scrophulariaceae (Figwort Family)

Chelone glabra L.; White Turtlehead; Ditch fen; Rare; C = 7; BSUH 14675.

Leucospora multifida (Michx.) Nutt.; Conobea, Narrow-Leaf Paleseed; Border between sedge mead-

ow and row crop field; Common and locally abundant; C = 3; BSUH 14713.

Pedicularis lanceolata Michx.; Swamp Lousewort, Fen Lousewort, Fen Betony; Wet roadside ditch and meadow; Infrequent; C = 6; BSUH 14684.

Scrophularia marilandica L.; Eastern Figwort, Late Figwort, Carpenter's Square; Roadside; Rare; C = 5; BSUH 14779.

Veronica anagallis-aquatica L.; SYN: *Veronica catenata* Pennell; Water Speedwell; Ditch fen; Rare; C = 5; BSUH 15840.

Smilacaceae (Catbrier Family)

Smilax lasioneura Hook.; SYN: *Smilax herbacea* L. var. *lasioneura* (Hook.) A. DC.; Common Carrion Flower, Blue Ridge Carrion Flower; Slope woods; Rare; C = 4; BSUH 14832.

Smilax tamnoides L.; SYN: *Smilax hispida* Muhl. ex Torr., *Smilax tamnoides* L. var. *hispida* (Muhl. ex Torr.) Fernald; Bristly Greenbrier or Catbrier; Slope woods; Rare; C = 3; BSUH 14782, 14900.

Solanaceae (Nightshade Family)

Physalis heterophylla Nees; Clammy Ground Cherry; Dry roadside and ditch; Rare but locally common; C = 3; BSUH 14880.

Physalis longifolia Nutt. var. *subglabrata* (Mack. & Bush) Cronquist; SYN: *Physalis subglabrata* Mack. & Bush; Longleaf Ground Cherry; Wet ditch and roadside; Infrequent; C = 0; BSUH 14733.

Solanum carolinense L. var. *carolinense*; Horse Nettle; Dry roadside; Rare but locally frequent; C = 0; BSUH 14736.

Typhaceae (Cattail Family)

Typha latifolia L.; Common Cattail, Broadleaf Cattail; Wet roadside ditch; Infrequent but locally common; C = 1; BSUH 14752.

Ulmaceae (Elm Family)

Celtis occidentalis L.; Northern or Common Hackberry; Woods; Common; Slope woods; Infrequent; C = 3; BSUH 14833.

(*) *Ulmus pumila* L.; Siberian Elm; Roadside; Rare; C = 0; BSUH 14727.

Ulmus rubra Muhl.; Slippery or Red Elm; Slope woods and open woods south of road; Infrequent; C = 3; BSUH 14815.

Urticaceae (Nettle Family)

Laportea canadensis (L.) Wedd.; Canadian Wood Nettle; Meadow north of fen; Rare; C = 2; BSUH 14843.

Pilea fontana (Lunell) Rydb.; Bog Clearweed; Ditch fen; Infrequent but locally abundant; C = 5; BSUH 14676.

Pilea pumila (L.) A. Gray; Canadian Clearweed; Ditch fen and moist lower section of slope woods; Common to abundant; C = 2; BSUH 14688.

Urtica dioica L. subsp. *gracilis* (Aiton) Seland.; SYN: *Urtica dioica* L. var. *procera* (Muhl. ex Willd.) Weddell, *Urtica procera* Muhl. ex Willd.; Tall Nettle, California Nettle; C = 1; BSUH 14768.

Verbenaceae (Vervain Family)

Phryma leptostachya L.; American Lopseed; Slope woods; Infrequent; C = 4; BSUH 14769.

Verbena hastata L.; Common Vervain, Blue Vervain, Swamp Vervain; Wet ditch and meadow; Rare; C = 3; BSUH 14780.

Verbena urticifolia L.; White Vervain; Wet ditch; Rare; C = 3; BSUH 14745.

Violaceae (Violet Family)

Viola sororia Willd.; Dooryard Violet, Common or Woolly Blue Violet; Ditch fen; Infrequent; C = 1; BSUH 14821.

Vitaceae (Grape Family)

Parthenocissus quinquefolia (L.) Planch.; Virginia Creeper, Woodbine; Slope woods; Common; C = 2; BSUH 14788.

Parthenocissus vitacea (Kner) Hitchc.; SYN: *Parthenocissus inserta* (A. Kern.) C. Fritsch; Grape Woodbine, Thicket Creeper; Slope woods and ditch fen; Infrequent; C = 2; BSUH 14863.

Vitis riparia Michx.; Riverbank Grape; Slope woods; Infrequent; C = 1; BSUH 14899.

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