

Attachment 11
Illinois Natural History Survey, Preliminary Prairie Report



ILLINOIS NATURAL HISTORY SURVEY

Memorandum

Illinois Department of Transportation
Wyandot Connection
Between Iowa Interstate Railroad (IAIS) &
Burlington Northern Santa Fe Railroad (BNSF)
in Bureau County, Illinois

Prepared by
Michael J. C. Murphy

Mapping by
Janet L. Jarvis

Division of Biodiversity and Ecological Entomology
Biotic Surveys Section

Memorandum to:

Illinois Department of Transportation
Bureau of Environment
2300 South Dirksen Parkway
Springfield, Illinois 62764

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INTRODUCTION

A request was received in July 2010 for botanical surveys to be conducted within habitats occurring in the Wyanet Connection Survey Area, Bureau County, Illinois, with an emphasis on any potential high quality prairie remnants. The survey area is located at the point of intersection between the Iowa Interstate Railroad (IAIS) and the Burlington Northern Sante Fe Railroad (BNSF) slightly southwest of Wyanet, Illinois (**Figure 1**), and encompasses a total area of 22.21 ha (54.89 acres). Survey boundaries included areas north of the IAIS railroad and areas northwest and southeast of the BNSF railroad (**Figure 1**). Specific goals of botanical surveys were: 1) to search for populations of threatened or endangered plant species within or immediately adjacent to survey boundaries – with an emphasis on potential remnant prairie habitats, and 2) determine if any high quality natural plant communities were present within the study area.

METHODS

Botanical surveys were conducted during two site visits between 6 July 2010 and 14 July 2010, with the search emphasis on threatened and endangered vascular plant species and/or high-quality natural communities. Cumulative species lists were compiled for all community types/plant associations encountered, and several dozen plant specimens were collected and preserved for laboratory examination with GPS coordinates taken at all collection locations. Upon identification of collected specimens, a Floristic Quality Assessment (FQA) based on Taft et al. (1997) was conducted on any high-quality natural communities occurring in the study area. Collected specimens are deposited in the Illinois Natural History Survey Herbarium (ILLS), in Champaign, Illinois. Botanical nomenclature follows Taft et al. (1997) and if not specifically stated, scientific names followed by an asterisk (*) denote vascular plants that are adventive to this region. Community classification and grades of natural quality follow White (1978). Grades of natural quality are as follows:

- Grade A: Relatively stable or undisturbed communities
- Grade B: Late successional or lightly disturbed communities
- Grade C: Mid-successional or moderately to heavily disturbed communities
- Grade D: Early successional or severely disturbed communities
- Grade E: Very early successional or very severely disturbed communities

RESULTS AND DISCUSSION

Threatened and Endangered Species

No threatened or endangered vascular plant species were found within the survey area during botanical surveys conducted on the two site visits.

Community Types

Community types within the survey area (**Figure 1**) included four cultural community types (communities resulting from human disturbance) and three natural community types, which were represented by varying degrees of natural quality. Species lists for all community types (with the exception of agricultural land) are provided in **Table 1**. Natural community types

that still possessed a relatively high degree of natural quality will be discussed in detail in the following section, while cultural communities and highly degraded natural communities will be discussed only briefly. Community types occurring within the survey area are as follows:

Natural Communities

- Dry to dry-mesic gravel prairie
- Dry-mesic to wet-mesic prairie
- Mesic floodplain forest

Cultural Communities

- Prairie planting
- Pastureland
- Successional forest
- Agricultural land

Community Descriptions

Dry to dry-mesic gravel prairie:

Five small remnants of dry to dry-mesic gravel prairie were found within the study area (**Figure 1**), ranging in size from 0.008 ha (0.02 acres) to 0.054 ha (0.13 acres). One of these remnants was very high quality (grade B to A-), but small (approximately 0.029 ha [0.07 acres]), and occurred immediately southeast of where the IAIS and BNSF railroads intersect (see **Figure 1**). The native Floristic Quality Index (FQI) for this remnant was 30.7 (29.0 with adventive taxa), which is a relatively high score considering the very small area this remnant occupies. The native mean C-value was 4.7 (4.2 with adventive taxa), which also supports the interpretation of a remnant community with high natural quality. Species occurring in this remnant as well as results of the Floristic Quality Assessment are shown in **Table 2**. The remaining gravel prairie remnants ranged in quality from grade D+ to C (see **Figure 1**). Species compositions within each of these areas were variable, but taxa commonly associated with these habitats included (see also **Table 1**):

<i>Amorpha canescens</i>	<i>Euphorbia corollata</i>	<i>Schizachyrium scoparium</i>
<i>Andropogon gerardii</i>	<i>Helianthus rigidus</i>	<i>Silphium laciniatum</i>
<i>Aster ericoides</i>	<i>Psoralea tenuiflora</i>	<i>Silphium terebinthinaceum</i>
<i>Bouteloua curtipendula</i>	<i>Ratibida pinnata</i>	<i>Solidago rigida</i>
<i>Brickellia eupatorioides</i>	<i>Rosa carolina</i>	<i>Stipa spartea</i>
<i>Eupatorium altissimum</i>	<i>Ruellia humilis</i>	<i>Tradescantia ohiensis</i>

Other taxa that were indicative of these habitats, but less commonly encountered, included:

<i>Anemone cylindrica</i>	<i>Dalea purpurea</i>	<i>Solidago missouriensis</i>
<i>Asclepias viridiflora</i>	<i>Desmodium illinoense</i>	<i>Sporobolus heterolepis</i>
<i>Aster azureus</i>	<i>Liatris aspera</i>	<i>Triosteum perfoliatum</i>
<i>Aster laevis</i>	<i>Lithospermum canescens</i>	<i>Viola pedatifida</i>
<i>Coreopsis palmata</i>	<i>Penstemon pallidus</i>	

Non-native species were common in these habitats, but infestation levels as well as the diversity of non-native species varied depending upon disturbance history and the degree of degradation having occurred within a given area. Common non-native species of gravel prairie habitats included (see also **Table 1**):

<i>Bromus inermis</i>	<i>Melilotus alba</i>	<i>Poa compressa</i>
<i>Daucus carota</i>	<i>Pastinaca sativa</i>	<i>Poa pratensis</i>

Dry-mesic to wet-mesic prairie:

On the western edge of the survey area, remnant prairie habitats ranging from dry-mesic to wet-mesic occurred parallel to, and on both the north and south sides of, the IAIS railroad (**Figure 1**). Dry-mesic to wet-mesic prairie remnants represented 1.13 ha (2.79 acres) of the survey area. The highest quality remnants of this community type occurred on the north side of the IAIS railroad, and these remnant communities continued west along the railroad (approx. 1.6 km [1 mile]) to CR 1200 E. One small remnant of this community type (approximately 0.14 ha [0.35 acres]) that occurred in the survey area (see **Figure 1**) had very high natural quality ranging from grade B to A-. The native FQI for this remnant was 33.8 (31.9 with adventive taxa), which again, is a relatively high score considering the very small area this remnant occupies. The native mean C-value was 4.6 (4.0 with adventive taxa), which also supports the interpretation of a remnant community with high natural quality. Species occurring in this remnant as well as FQA results are shown in **Table 3**. Remaining prairie communities of this type within the survey area were grade C to D (**Figure 1**), but higher quality areas (including another grade B to A- section of prairie - see **Figure 1**) occurred west, and outside of the survey area, toward CR 1200 E.

Species commonly encountered within these habitat types included (see also **Table 1**):

<i>Allium canadense</i>	<i>Carex tricocarpa</i>	<i>Rosa carolina</i>
<i>Amphicarpa bracteata</i>	<i>Equisetum laevigatum</i>	<i>Schizachyrium scoparium</i>
<i>Andropogon gerardii</i>	<i>Euphorbia corollata</i>	<i>Silphium laciniatum</i>
<i>Apios americana</i>	<i>Euthamia graminifolia</i>	<i>Silphium terebinthinaceum</i>
<i>Apocynum sibiricum</i>	<i>Helianthus rigidus</i>	<i>Solidago canadensis</i>
<i>Aster ericoides</i>	<i>Heliopsis helianthoides</i>	<i>Solidago rigida</i>
<i>Aster laevis</i>	<i>Monarda fistulosa</i>	<i>Spartina pectinata</i>
<i>Aster praealtus</i>	<i>Muhlenbergia frondosa</i>	<i>Stipa spartea</i>
<i>Calystegia sepium</i>	<i>Pycnanthemum virginianum</i>	<i>Tradescantia ohiensis</i>
<i>Carex lanuginosa</i>	<i>Ratibida pinnata</i>	<i>Veronicastrum virginianum</i>

Other taxa that were indicative of these habitats, but less commonly encountered, included:

<i>Amorpha canescens</i>	<i>Desmodium illinoense</i>	<i>Lilium michiganense</i>
<i>Asclepias viridiflora</i>	<i>Desmodium sessilifolium</i>	<i>Lithospermum canescens</i>
<i>Bouteloua curtipendula</i>	<i>Echinacea pallida</i>	<i>Phlox maculata</i>
<i>Carex emoryi</i>	<i>Eryngium yuccifolium</i>	<i>Phlox pilosa</i>
<i>Carex meadii</i>	<i>Lespedeza capitata</i>	<i>Sporobolus heterolepis</i>
<i>Dalea candida</i>	<i>Liatris cylindracea</i>	<i>Symphoricarpos occidentalis</i>
<i>Dalea purpurea</i>	<i>Liatris pycnostachya</i>	<i>Zizia aurea</i>

Several non-native species were commonly encountered in these habitats, and included (see also **Table 1**):

<i>Agropyron repens</i>	<i>Melilotus alba</i>	<i>Poa compressa</i>
<i>Bromus inermis</i>	<i>Pastinaca sativa</i>	<i>Poa pratensis</i>
<i>Daucus carota</i>	<i>Phalaris arundinacea</i>	

Mesic floodplain forest:

A small amount of mesic floodplain forest (0.86 ha [2.12 acres]) occurred within the survey area, and this habitat type was located along Pond Creek (**Figure 1**). All areas representing this community type were highly degraded (grade D-), and infestation levels of *Lonicera maackii** (amur honeysuckle) were often very high. The ground flora in these areas was sparse and the dominant condition was bare soil. Heavy shading from amur honeysuckle as well as a dense overstory and understory of *Acer negundo* (boxelder), *Celtis occidentalis* (hackberry), *Morus alba** (white mulberry), *Prunus serotina* (black cherry), *Ulmus americana* (American elm), and *Ulmus rubra* (slippery elm), is a contributing factor to the low diversity in these areas (see also **Table 1**).

Prairie Planting:

Approximately 1.39 ha (3.43 acres) of the survey area were represented by prairie plantings (**Figure 1**). Located on the northern boundaries of the survey area, these prairies appeared to be old agricultural and/or pastureland areas that had been replanted to prairie in more recent years. Much of this community type was dominated by native prairie species, including *Andropogon gerardii* (big bluestem), *Monarda fistulosa* (wild bergamot), *Panicum virgatum* (prairie switch grass), and *Ratibida pinnata* (yellow coneflower), but also had portions infested with, and/or dominated by, non-native species and native ruderal species - these included: *Ambrosia artemisiifolia* (common ragweed), *Bromus inermis** (Hungarian brome), *Medicago sativa** (alfalfa), *Melilotus alba** (white sweet clover), *Pastinaca sativa** (wild parsnip), and *Torilis japonica** (Japanese hedge parsley) (see also **Table 1**).

Pastureland:

Located on the northern boundary of the survey area (**Figure 1**), pastureland represented 0.26 ha (0.64 acres) of the total survey area. The two dominant species of this community type were Hungarian brome* and alfalfa* (see also **Table 1**).

Successional Forest:

Successional forest habitats were prevalent within the survey area (**Figure 1**), occupying 4.92 ha (12.15 acres), and representing areas that have been severely degraded. These areas are now characterized by very dense growth of native, and to a much greater extent, non-native woody species, to the near or complete exclusion of plant species that historically would have been present in these habitats.

Agricultural Land:

Agricultural land represented 10.93 ha (27.02 acres) of the total survey area (**Figure 1**), and at the time surveys were conducted, was planted in either corn (*Zea mays*) or soybeans (*Glycine max*).

Recommendations

Due to the high quality condition of several sections of prairie within the survey area, it is recommended that further surveys for threatened or endangered species be conducted at different times of the growing season (i.e, late summer, autumn, and spring) to account for the phenology of different species. Further surveys would also provide additional information with respect to the natural quality these remnants still possess.

REFERENCES

- Reed, P. B., Jr. 1988. National list of plant species that occur in wetlands: north central (region 3). U.S. Fish and Wildlife Service Biological Report 88(26.3).
- Taft, J. B., G. S. Wilhelm, D. M. Ladd, and L. A. Masters. 1997. Floristic quality assessment for vegetation in Illinois. A method for assessing vegetation integrity. *Erigenia* 15:3-95.
- White, J. 1978. Illinois natural areas inventory technical report. Vol. 1. Survey methods and results. Illinois Natural Areas Inventory, Urbana. 426 pp.

Table 1. Vascular plant species and corresponding habitats observed in the IDOT Wyanet Connection Survey Area, Bureau County, Illinois. Habitat abbreviations are: DMGP = dry/dry-mesic gravel prairie; DMWMP = dry-mesic to wet-mesic prairie; MFPP = degraded mesic floodplain forest; PLPR = planted prairie; PL = pastureland; and SF = successional forest. Other abbreviations are: C = coefficient of conservatism; W = numeric wetness values for wetland categories (see end of table); Wetness = wetland classification category (see end of table); Physiog. = physiognomy (combination of structural attributes, life history and taxonomic classification). Single letter prefixes for Forb, Grass, Sedge, or Vine classifications: A = annual, H = herbaceous, P = perennial, and W = woody. Scientific names in all capital letters indicate non-native taxa.

C	Scientific Name	W	Wetness	Physiog.	Common Name	DMGP	DMWMP	MFPP	PLPR	PL	SF
1	<i>Acer negundo</i>	-2	FACW-	Tree	BOXELDER	X	X	X			X
0	AGROPYRON REPENS	3	FACU	P-Grass	QUACK GRASS		X				
0	<i>Agrostis alba</i>	-3	FACW	P-Grass	RED TOP		X				
0	ALLIARIA PETIOLATA	0	FAC	B-Forb	GARLIC MUSTARD			X			X
2	<i>Allium canadense</i>	3	FACU	P-Forb	WILD GARLIC		X				
0	AMARANTHUS RETROFLEXUS	2	FACU+	A-Forb	ROUGH PIGWEED						X
0	<i>Ambrosia artemisiifolia</i>	3	FACU	A-Forb	COMMON RAGWEED		X		X	X	
0	<i>Ambrosia trifida</i>	-1	FAC+	A-Forb	GIANT RAGWEED		X	X	X		X
8	<i>Amorpha canescens</i>	5	UPL	Shrub	LEAD PLANT	X	X				
4	<i>Amphicarpa bracteata</i>	0	FAC	H-Vine	HOG PEANUT		X				
5	<i>Andropogon gerardii</i>	1	FAC-	P-Grass	BIG BLUESTEM	X	X		X		
4	<i>Anemone canadensis</i>	-3	FACW	P-Forb	MEADOW ANEMONE	X	X				
8	<i>Anemone cylindrica</i>	5	UPL	P-Forb	CANDLE ANEMONE	X					
4	<i>Anemone virginiana</i>	5	UPL	P-Forb	TALL ANEMONE	X					
3	<i>Apios americana</i>	-3	FACW	H-Vine	GROUND NUT		X				
2	<i>Apocynum sibiricum</i>	-1	FAC+	P-Forb	INDIAN HEMP	X	X		X		
0	<i>Asclepias syriaca</i>	5	UPL	P-Forb	COMMON MILKWEED	X	X		X	X	
9	<i>Asclepias viridiflora</i>	5	UPL	P-Forb	GREEN MILKWEED	X	X				
0	ASPARAGUS OFFICINALIS	3	FACU	P-Forb	GARDEN ASPARAGUS	X			X		
7	<i>Aster azureus</i>	5	UPL	P-Forb	SKY-BLUE ASTER	X					
4	<i>Aster ericoides</i>	4	FACU-	P-Forb	HEATH ASTER	X	X				
8	<i>Aster laevis</i>	5	UPL	P-Forb	SMOOTH BLUE ASTER	X	X				
4	<i>Aster novae-angliae</i>	-3	FACW	P-Forb	NEW ENGLAND ASTER	X	X				
0	<i>Aster pilosus</i>	4	FACU-	P-Forb	HAIRY ASTER	X	X		X	X	
4	<i>Aster praealtus</i>	-5	OBL	P-Forb	WILLOW ASTER		X				
3	<i>Aster simplex</i>	-5	OBL	P-Forb	PANICLED ASTER			X			
7	<i>Astragalus canadensis</i>	-1	FAC+	P-Forb	CANADIAN MILK VETCH				X		
1	<i>Bidens frondosa</i>	-3	FACW	A-Forb	COMMON BEGGAR'S TICKS			X			
7	<i>Bouteloua curtipendula</i>	5	UPL	P-Grass	SIDE-OATS GRAMA	X	X				
0	BRASSICA NIGRA	5	UPL	A-Forb	BLACK MUSTARD			X			X
6	<i>Brickellia eupatorioides</i>	5	UPL	P-Forb	FALSE BONESET	X	X				
0	BROMUS ARVENSIS	5	UPL	P-Grass	CHESS				X		
0	BROMUS INERMIS	5	UPL	P-Grass	HUNGARIAN BROME	X			X	X	
1	<i>Calystegia sepium</i>	0	FAC	P-Forb	AMERICAN BINDWEED	X	X	X	X		
4	<i>Campanula americana</i>	0	FAC	A-Forb	AMERICAN BELLFLOWER		X	X			X
4	<i>Carex aggregata</i>	5	UPL	P-Sedge	SMOOTH CLUSTERED SEDGE		X				
4	<i>Carex brevior</i>	0	FAC	P-Sedge	PLAINS OVAL SEDGE		X				
6	<i>Carex emoryi</i>	-5	OBL	P-Sedge	RIVERBANK SEDGE		X				
4	<i>Carex lanuginosa</i>	-5	OBL	P-Sedge	WOOLY SEDGE		X				
6	<i>Carex meadii</i>	4	FACU-	P-Sedge	MEAD'S STIFF SEDGE		X				
5	<i>Carex stricta</i>	-5	OBL	P-Sedge	TUSSOCK SEDGE		X				
6	<i>Carex trichocarpa</i>	-5	OBL	P-Sedge	HAIRY-FRUITED LAKE SEDGE		X				
1	<i>Cassia fasciculata</i>	4	FACU-	A-Forb	GOLDEN CASSIA	X					
3	<i>Celtis occidentalis</i>	1	FAC-	Tree	HACKBERRY			X			X
4	<i>Cicuta maculata</i>	-5	OBL	B-Forb	WATER HEMLOCK		X	X			
3	<i>Cirsium discolor</i>	5	UPL	B-Forb	PASTURE THISTLE	X	X				
6	Comandra umbellata	3	FACU	P-Forb	BASTARD TOAD-FLAX		X				

Table 1 continued					DMGP	DMWMP	MFPF	PLPR	PL	SF
C	Scientific Name	W	Wetness	Physiog.	Common Name					
0	COMMELINA COMMUNIS	0	FAC	A-Forb	COMMON DAY FLOWER					X
0	Coryza canadensis	1	FAC-	A-Forb	HORSEWEED			X	X	X
6	Coreopsis palmata	5	UPL	P-Forb	PRAIRIE COREOPSIS	X	X			
2	Cornus drummondii	0	FAC	Shrub	ROUGH-LEAVED DOGWOOD	X				X
1	Cryptotaenia canadensis	0	FAC	P-Forb	HONEWORT			X		X
2	Cuscuta gronovii	-3	FACW	A-Forb	COMMON DODDER		X			
0	DACTYLIS GLOMERATA	3	FACU	P-Grass	ORCHARD GRASS			X	X	
9	Dalea candida	5	UPL	P-Forb	WHITE PRAIRIE CLOVER		X			
8	Dalea purpurea	5	UPL	P-Forb	PURPLE PRAIRIE CLOVER	X	X			
0	DAUCUS CAROTA	4	FACU-	B-Forb	QUEEN ANNE'S LACE	X	X	X	X	
5	Desmodium illinoense	5	UPL	P-Forb	ILLINOIS TICK TREFOIL	X	X			
6	Desmodium sessilifolium	5	UPL	P-Forb	SESSILE-LEAVED TICKTREFOIL		X			
7	Echinacea pallida	5	UPL	P-Forb	PALE PURPLE CONEFLOWER	X	X			
4	Elymus canadensis	1	FAC-	P-Grass	CANADA WILD RYE		X			
4	Elymus virginicus	-2	FACW-	P-Grass	VIRGINIA WILD RYE		X	X		
0	Equisetum arvense	0	FAC	Fern	COMMON HORSETAIL		X	X		
4	Equisetum laevigatum	-3	FACW	Fern	SMOOTH SCOURING RUSH	X	X			
2	Erigeron strigosus	1	FAC-	P-Forb	DAISY FLEABANE	X	X	X		
7	Eryngium yuccifolium	-1	FAC+	P-Forb	RATTLESNAKE MASTER		X			
2	Eupatorium altissimum	3	FACU	P-Forb	TALL BONESET	X	X			
2	Eupatorium rugosum	3	FACU	P-Forb	WHITE SNAKEROOT			X		X
3	Euphorbia corollata	5	UPL	P-Forb	FLOWERING SPURGE	X	X			
3	Euthamia graminifolia	-2	FACW-	P-Forb	GRASS-LEAVED GOLDENROD		X			
0	FESTUCA ARUNDINACEA	2	FACU+	P-Grass	TALL FESCUE	X		X		
2	Fragaria virginiana	1	FAC-	P-Forb	WILD STRAWBERRY	X	X			
4	Galium triflorum	2	FACU+	P-Forb	SWEET-SCENTED BEDSTRAW			X		X
2	Geum canadense	0	FAC	P-Forb	WHITE AVENS			X		X
2	Gleditsia triacanthos	0	FAC	Tree	HONEY LOCUST			X		X
1	Hackelia virginiana	1	FAC-	P-Forb	STICKSEED			X		X
2	Helianthus grosseserratus	-2	FACW-	P-Forb	SAWTOOTH SUNFLOWER		X			
5	Helianthus hirsutus	5	UPL	P-Forb	BRISTLY SUNFLOWER	X				
6	Helianthus rigidus	5	UPL	P-Forb	PRAIRIE SUNFLOWER	X	X			
3	Helianthus tuberosus	0	FAC	P-Forb	JERUSALEM ARTICHOKE		X			
4	Heliopsis helianthoides	5	UPL	P-Forb	FALSE SUNFLOWER		X	X		
2	Impatiens capensis	-3	FACW	A-Forb	SPOTTED TOUCH-ME-NOT		X	X		X
4	Juglans nigra	3	FACU	Tree	BLACK WALNUT	X				X
1	Juniperus virginiana	3	FACU	Tree	EASTERN RED CEDAR	X				X
1	Lactuca canadensis	2	FACU+	B-Forb	WILD LETTUCE	X	X			
0	LACTUCA SERRIOLA	0	FAC	B-Forb	PRICKLY LETTUCE					X
4	Lespedeza capitata	3	FACU	P-Forb	ROUND-HEADED BUSH CLOVER		X			
7	Liatris aspera	5	UPL	P-Forb	ROUGH BLAZING STAR	X	X			
8	Liatris cylindracea	5	UPL	P-Forb	CYLINDRICAL BLAZING STAR		X			
6	Liatris pycnostachya	1	FAC-	P-Forb	PRAIRIE BLAZINE STAR		X			
6	Lilium michiganense	-1	FAC+	P-Forb	MICHIGAN LILY		X			
6	Lithospermum canescens	5	UPL	P-Forb	HOARY PUCCOON		X			
0	LONICERA MAACKII	5	UPL	Shrub	AMUR HONEYSUCKLE	X	X	X		X
3	Lycopus americanus	-5	OBL	P-Forb	COMMON WATER HOREHOUND		X			
5	Lythrum alatum	-5	OBL	P-Forb	WINGED LOOSESTRIFE		X			
3	Malus ioensis	5	UPL	Tree	IOWA CRAB	X				
0	MEDICAGO LUPULINA	1	FAC-	A-Forb	BLACK MEDICK	X		X		
0	MEDICAGO SATIVA	5	UPL	P-Forb	ALFALFA			X	X	
0	MELILOTUS ALBA	3	FACU	B-Forb	WHITE SWEET CLOVER	X	X	X	X	
4	Menispermum canadense	-1	FAC+	W-Vine	MOONSEED			X		X
0	MIRABILIS NYCTAGINEA	5	UPL	P-Forb	WILD FOUR O'CLOCK					X
4	Monarda fistulosa	3	FACU	P-Forb	WILD BERGAMOT		X	X		

Table 1 continued					DMGP	DMWMP	MFPF	PLPR	PL	SF
C	Scientific Name	W	Wetness	Physiog.	Common Name					
0	MORUS ALBA	0	FAC	Tree	WHITE MULBERRY			X		X
3	Muhlenbergia frondosa	-3	FACW	P-Grass	COMMON SATIN GRASS		X			
0	NEPETA CATARIA	1	FAC-	P-Forb	CATNIP					X
10	Onosmodium molle	5	UPL	P-Forb	DOWNY MARBLESEED	X				
3	Osmorhiza longistylis	4	FACU-	P-Forb	ANISE ROOT			X		X
3	Panicum oligosanthes v. scribnerianum	3	FACU	P-Grass	SCRIBNER'S PANIC GRASS	X	X			
4	Panicum virgatum	-1	FAC+	P-Grass	PRAIRIE SWITCH GRASS			X	X	
2	Parthenocissus quinquefolia	1	FAC-	W-Vine	VIRGINIA CREEPER	X	X	X		X
0	PASTINACA SATIVA	5	UPL	B-Forb	WILD PARSNIP	X	X		X	
6	Penstemon pallidus	5	UPL	P-Forb	PALE BEARD TONGUE	X				
0	PHALARIS ARUNDINACEA	-4	FACW+	P-Grass	REED CANARY GRASS		X	X		
0	PHLEUM PRATENSE	3	FACU	P-Grass	TIMOTHY		X		X	
10	Phlox maculata	-5	OBL	P-Forb	WILD SWEET WILLIAM		X			
7	Phlox pilosa	1	FAC-	P-Forb	SAND PRAIRIE PHLOX		X			
1	Phragmites australis	-4	FACW+	P-Grass	COMMON REED		X			
4	Phryma leptostachya	5	UPL	P-Forb	LOPSEED	X		X		X
2	Physalis heterophylla	5	UPL	P-Forb	CLAMMY GROUND CHERRY	X				
0	Physalis subglabrata	5	UPL	P-Forb	SMOOTH GROUND CHERRY		X			
1	Phytolacca americana	1	FAC-	P-Forb	POKEWEED			X		X
3	Pilea pumila	-3	FACW	A-Forb	CANADA CLEARWEED			X		X
0	POA COMPRESSA	2	FACU+	P-Grass	CANADIAN BLUE GRASS	X	X			X
0	POA PRATENSIS	1	FAC-	P-Grass	KENTUCKY BLUE GRASS	X	X		X	
2	Polygonum scandens	0	FAC	H-Vine	CLIMBING FALSE BUCKWHEAT		X	X		
2	Populus deltoides	-1	FAC+	Tree	EASTERN COTTONWOOD			X		X
3	Prunus americana	5	UPL	Tree	AMERICAN PLUM			X		
1	Prunus serotina	3	FACU	Tree	WILD BLACK CHERRY	X	X	X		X
8	Psoralea tenuiflora	5	UPL	P-Forb	SCURFY-PEA	X				
5	Pycnanthemum virginianum	-4	FACW+	P-Forb	COMMON MOUNTAIN MINT		X			
5	Quercus macrocarpa	1	FAC-	Tree	BURR OAK					X
4	Ranunculus septentrionalis	-4	FACW+	P-Forb	SWAMP BUTTERCUP			X		
4	Ratibida pinnata	5	UPL	P-Forb	YELLOW CONEFLOWER	X	X		X	
1	Rhus glabra	5	UPL	Shrub	SMOOTH SUMAC	X	X			X
2	Ribes missouriense	5	UPL	Shrub	MISSOURI GOOSEBERRY			X		X
4	Rosa carolina	4	FACU-	Shrub	PASTURE ROSE	X	X			
2	Rubus occidentalis	3	FACU	Shrub	BLACK RASPBERRY		X	X		X
2	Rubus pensylvanicus	1	FAC-	Shrub	YANKEE BLACKBERRY	X	X	X		X
2	Rudbeckia hirta	3	FACU	P-Forb	BLACK-EYED SUSAN	X	X		X	
3	Ruellia humilis	4	FACU-	P-Forb	HAIRY RUELLIA	X	X			
0	RUMEX CRISPUS	-1	FAC+	P-Forb	CURLY DOCK			X		
4	Sagittaria latifolia	-5	OBL	P-Forb	COMMON ARROWHEAD			X		
1	Salix exigua	-5	OBL	Shrub	SANDBAR WILLOW			X		
2	Sambucus canadensis	4	FACU-	Shrub	COMMON ELDER		X	X		
0	SAPONARIA OFFICINALIS	3	FACU	P-Forb	BOUNCING BET			X		
5	Schizachyrium scoparium	4	FACU-	P-Grass	LITTLE BLUESTEM	X	X		X	
6	Senecio plattensis	4	FACU-	P-Forb	PRAIRIE RAGWORT	X				
6	Silene stellata	5	UPL	P-Forb	STARRY CAMPION			X		
5	Silphium integrifolium	5	UPL	P-Forb	ROSIN WEED			X		
5	Silphium laciniatum	4	FACU-	P-Forb	COMPASS PLANT	X	X			
4	Silphium perfoliatum	-2	FACW-	P-Forb	CUP PLANT			X		
4	Silphium terebinthinaceum	1	FAC-	P-Forb	PRAIRIE DOCK	X	X			
3	Smilax hispida	0	FAC	W-Vine	BRISTLY GREEN BRIER			X		
4	Smilax lasioneuron	5	UPL	H-Vine	COMMON CARRION FLOWER			X		
0	Solanum carolinense	4	FACU-	P-Forb	HORSE NETTLE					X
1	Solidago canadensis	3	FACU	P-Forb	CANADA GOLDENROD	X	X		X	
3	Solidago gigantea	-3	FACW	P-Forb	LATE GOLDENROD	X	X	X		

Table 1 continued

C	Scientific Name	W	Wetness	Physiog.	Common Name	DMGP	DMWMP	MFPF	PLPR	PL	SF
4	<i>Solidago missouriensis</i>	5	UPL	P-Forb	MISSOURI GOLDENROD	X					
4	<i>Solidago rigida</i>	4	FACU-	P-Forb	RIGID GOLDENROD	X	X				
4	<i>Spartina pectinata</i>	-4	FACW+	P-Grass	PRAIRIE CORD GRASS		X				
9	<i>Sporobolus heterolepis</i>	4	FACU-	P-Grass	NORTHERN DROP SEED	X	X				
5	<i>Stachys palustris</i>	-5	OBL	P-Forb	WOUNDWORT		X				
6	<i>Stipa spartea</i>	5	UPL	P-Grass	PORCUPINE GRASS	X	X				
6	<i>Symphoricarpos occidentalis</i>	5	UPL	Shrub	WOLFBERRY		X				
3	<i>Teucrium canadense v. virginicum</i>	-2	FACW-	P-Forb	AMERICAN GERMANDER	X	X				
5	<i>Thalictrum dasycarpum v. hypoglaucom</i>	-2	FACW-	P-Forb	SMOOTH MEADOW RUE		X				
5	<i>Tilia americana</i>	3	FACU	Tree	AMERICAN LINDEN						X
0	TORILIS JAPONICA	5	UPL	A-Forb	JAPANESE HEDGE PARSLEY				X		
1	<i>Toxicodendron radicans</i>	3	FACU	W-Vine	POISON IVY	X	X	X	X		X
3	<i>Tradescantia ohiensis</i>	2	FACU+	P-Forb	COMMON SPIDERWORT	X	X				
0	TRAGOPOGON PRATENSIS	5	UPL	B-Forb	COMMON GOAT'S BEARD		X				
0	TRIFOLIUM PRATENSE	2	FACU+	P-Forb	RED CLOVER					X	
5	<i>Triosteum perfoliatum</i>	5	UPL	P-Forb	LATE HORSE GENTIAN	X	X				
5	<i>Ulmus americana</i>	-2	FACW-	Tree	AMERICAN ELM			X			X
3	<i>Ulmus rubra</i>	0	FAC	Tree	SLIPPERY ELM			X			X
2	<i>Urtica dioica</i>	-1	FAC+	P-Forb	TALL NETTLE		X	X			X
0	VERBASCUM THAPSUS	5	UPL	B-Forb	WOOLLY MULLEIN		X		X	X	
2	<i>Verbena stricta</i>	5	UPL	P-Forb	HOARY VERVAIN	X					
3	<i>Verbena urticifolia</i>	-1	FAC+	P-Forb	WHITE VERVAIN			X	X	X	X
6	<i>Veronicastrum virginicum</i>	0	FAC	P-Forb	CULVER'S ROOT		X				
0	VIBURNUM OPULUS	0	FAC	Shrub	EUROPEAN BUSH CRANBERRY						X
9	<i>Viola pedatifida</i>	4	FACU-	P-Forb	PRAIRIE VIOLET	X					
2	<i>Vitis riparia</i>	-2	FACW-	W-Vine	RIVERBANK GRAPE	X	X	X			X
6	<i>Zizia aurea</i>	-1	FAC+	P-Forb	GOLDEN ALEXANDERS		X				

Wetland classification categories follow Reed (1988) for Region 3. Further details are from Taft et al. (1997). Plants are placed within one of five wetland indicator categories: Obligate Wetland (OBL), Facultative Wetland (FACW), Facultative (FAC), Facultative Upland (FACU), and Upland (UPL). Within any of these five categories, a “+” indicates that a particular taxon has a greater tendency to occur in wetlands while a “-” indicates a lesser tendency. Following this, indicator status categories, in descending order of probability of occurrence in wetland habitat, would be:

- 5 Obligate Wetland (OBL)
- 4 Facultative Wetland + (FACW+)
- 3 Facultative Wetland (FACW)
- 2 Facultative Wetland - (FACW-)
- 1 Facultative + (FAC+)
- 0 Facultative (FAC)
- +1 Facultative - (FAC-)
- +2 Facultative Upland + (FACU+)
- +3 Facultative Upland (FACU)
- +4 Facultative Upland - (FACU-)
- +5 Upland (UPL)

Table 2. Vascular plant species occurring at a grade B to A- remnant gravel prairie within the IDOT Wyanet Connection Survey Area, Bureau County, IL, and results of corresponding Floristic Quality Assessment. C = coefficient of conservatism; Physiognomy = (combination of structural attributes, life history and taxonomic classification). Single letter prefixes accompanying Forb, Grass, Sedge, or Vine classifications are as follows: A = annual, H = herbaceous, P = perennial, and W = woody. Taxa with scientific names in all capital letters are adventive to the region.

C	Scientific Name	Physiognomy	Common Name
8	<i>Amorpha canescens</i>	Shrub	LEAD PLANT
5	<i>Andropogon gerardii</i>	P-Grass	BIG BLUESTEM
8	<i>Anemone cylindrica</i>	P-Forb	CANDLE ANEMONE
9	<i>Asclepias viridiflora</i>	P-Forb	GREEN MILKWEED
7	<i>Aster azureus</i>	P-Forb	SKY-BLUE ASTER
4	<i>Aster ericoides</i>	P-Forb	HEATH ASTER
8	<i>Aster laevis</i>	P-Forb	SMOOTH BLUE ASTER
7	<i>Bouteloua curtipendula</i>	P-Grass	SIDE-OATS GRAMA
6	<i>Brickellia eupatorioides</i>	P-Forb	FALSE BONESET
0	<i>BROMUS INERMIS</i>	P-Grass	HUNGARIAN BROME
3	<i>Cirsium discolor</i>	B-Forb	PASTURE THISTLE
2	<i>Cornus drummondii</i>	Shrub	ROUGH-LEAVED DOGWOOD
8	<i>Dalea purpurea</i>	P-Forb	PURPLE PRAIRIE CLOVER
0	<i>DAUCUS CAROTA</i>	B-Forb	QUEEN ANNE'S LACE
7	<i>Echinacea pallida</i>	P-Forb	PALE PURPLE CONEFLOWER
4	<i>Equisetum laevigatum</i>	Fern	SMOOTH SCOURING RUSH
2	<i>Erigeron strigosus</i>	P-Forb	DAISY FLEABANE
2	<i>Eupatorium altissimum</i>	P-Forb	TALL BONESET
3	<i>Euphorbia corollata</i>	P-Forb	FLOWERING SPURGE
5	<i>Helianthus hirsutus</i>	P-Forb	BRISTLY SUNFLOWER
6	<i>Helianthus rigidus</i>	P-Forb	PRAIRIE SUNFLOWER
1	<i>Juniperus virginiana</i>	Tree	EASTERN RED CEDAR
1	<i>Lactuca canadensis</i>	B-Forb	WILD LETTUCE
7	<i>Liatris aspera</i>	P-Forb	ROUGH BLAZING STAR
3	<i>Malus ioensis</i>	Tree	IOWA CRAB
0	<i>MELILOTUS ALBA</i>	B-Forb	WHITE SWEET CLOVER
10	<i>Onosmodium molle</i>	P-Forb	DOWNY MARBLESEED
3	<i>Panicum oligosanthos v. scribnerianum</i>	P-Grass	SCRIBNER'S PANIC GRASS
0	<i>PASTINACA SATIVA</i>	B-Forb	WILD PARSNIP
6	<i>Penstemon pallidus</i>	P-Forb	PALE BEARD TONGUE
0	<i>POA COMPRESSA</i>	P-Grass	CANADIAN BLUE GRASS
8	<i>Psoralea tenuiflora</i>	P-Forb	SCURFY-PEA
4	<i>Ratibida pinnata</i>	P-Forb	YELLOW CONEFLOWER
1	<i>Rhus glabra</i>	Shrub	SMOOTH SUMAC

Table 2 continued

C	Scientific Name	Physiognomy	Common Name
4	<i>Rosa carolina</i>	Shrub	PASTURE ROSE
5	<i>Schizachyrium scoparium</i>	P-Grass	LITTLE BLUESTEM
6	<i>Senecio plattensis</i>	P-Forb	PRAIRIE RAGWORT
4	<i>Silphium terebinthinaceum</i>	P-Forb	PRAIRIE DOCK
1	<i>Solidago canadensis</i>	P-Forb	CANADA GOLDENROD
3	<i>Solidago gigantea</i>	P-Forb	LATE GOLDENROD
4	<i>Solidago rigida</i>	P-Forb	RIGID GOLDENROD
9	<i>Sporobolus heterolepis</i>	P-Grass	NORTHERN DROP SEED
6	<i>Stipa spartea</i>	P-Grass	PORCUPINE GRASS
3	<i>Teucrium canadense v. virginicum</i>	P-Forb	AMERICAN GERMANDER
1	<i>Toxicodendron radicans</i>	W-Vine	POISON IVY
3	<i>Tradescantia ohiensis</i>	P-Forb	COMMON SPIDERWORT
2	<i>Verbena stricta</i>	P-Forb	HOARY VERVAIN
2	<i>Vitis riparia</i>	W-Vine	RIVERBANK GRAPE

Table 3. Vascular plant species occurring at a grade B to A- remnant dry-mesic to wet-mesic prairie within the IDOT Wyanet Connection Survey Area, Bureau County, IL, and results of corresponding Floristic Quality Assessment. C = coefficient of conservatism; Physiognomy = (combination of structural attributes, life history and taxonomic classification). Single letter prefixes accompanying Forb, Grass, Sedge, or Vine classifications are as follows: A = annual, H = herbaceous, P = perennial, and W = woody. Taxa with scientific names in all capital letters are adventive to the region.

C	Scientific Name	Physiognomy	Common Name
0	AGROPYRON REPENS	P-Grass	QUACK GRASS
2	Allium canadense	P-Forb	WILD GARLIC
8	Amorpha canescens	Shrub	LEAD PLANT
4	Amphicarpa bracteata	H-Vine	HOG PEANUT
5	Andropogon gerardii	P-Grass	BIG BLUESTEM
4	Anemone canadensis	P-Forb	MEADOW ANEMONE
0	Asclepias syriaca	P-Forb	COMMON MILKWEED
4	Aster ericoides	P-Forb	HEATH ASTER
8	Aster laevis	P-Forb	SMOOTH BLUE ASTER
4	Aster praealtus	P-Forb	WILLOW ASTER
7	Bouteloua curtipendula	P-Grass	SIDE-OATS GRAMA
6	Brickellia eupatorioides	P-Forb	FALSE BONESET
0	BROMUS INERMIS	P-Grass	HUNGARIAN BROME
6	Carex emoryi	P-Sedge	RIVERBANK SEDGE
4	Carex lanuginosa	P-Sedge	WOOLY SEDGE
6	Carex meadii	P-Sedge	MEAD'S STIFF SEDGE
6	Carex trichocarpa	P-Sedge	HAIRY-FRUITED LAKE SEDGE
3	Cirsium discolor	B-Forb	PASTURE THISTLE
6	Comandra umbellata	P-Forb	BASTARD TOAD-FLAX
6	Coreopsis palmata	P-Forb	PRAIRIE COREOPSIS
8	Dalea purpurea	P-Forb	PURPLE PRAIRIE CLOVER
5	Desmodium illinoense	P-Forb	ILLINOIS TICK TREFOIL
6	Desmodium sessilifolium	P-Forb	SESSILE-LEAVED TICKTREFOIL
7	Echinacea pallida	P-Forb	PALE PURPLE CONEFLOWER
4	Elymus canadensis	P-Grass	CANADA WILD RYE
4	Equisetum laevigatum	Fern	SMOOTH SCOURING RUSH
7	Eryngium yuccifolium	P-Forb	RATTLESNAKE MASTER
3	Euphorbia corollata	P-Forb	FLOWERING SPURGE
3	Euthamia graminifolia	P-Forb	GRASS-LEAVED GOLDENROD
2	Fragaria virginiana	P-Forb	WILD STRAWBERRY
6	Galium tinctorium	P-Forb	STIFF BEDSTRAW
6	Helianthus rigidus	P-Forb	PRAIRIE SUNFLOWER
3	Helianthus tuberosus	P-Forb	JERUSALEM ARTICHOKE
4	Heliopsis helianthoides	P-Forb	FALSE SUNFLOWER
1	Lactuca canadensis	B-Forb	WILD LETTUCE
7	Liatris aspera	P-Forb	ROUGH BLAZING STAR

Table 3 continued

C	Scientific Name	Physiognomy	Common Name
8	<i>Liatris cylindracea</i>	P-Forb	CYLINDRICAL BLAZING STAR
6	<i>Lithospermum canescens</i>	P-Forb	HOARY PUCCOON
0	MELILOTUS ALBA	B-Forb	WHITE SWEET CLOVER
4	<i>Monarda fistulosa</i>	P-Forb	WILD BERGAMOT
3	<i>Panicum oligosanthes</i> v. <i>scribnerianum</i>	P-Grass	SCRIBNER'S PANIC GRASS
6	<i>Panicum rigidulum</i>	P-Grass	MUNRO GRASS
0	PASTINACA SATIVA	B-Forb	WILD PARSNIP
0	POA COMPRESSA	P-Grass	CANADIAN BLUE GRASS
0	POA PRATENSIS	P-Grass	KENTUCKY BLUE GRASS
4	<i>Ratibida pinnata</i>	P-Forb	YELLOW CONEFLOWER
4	<i>Rosa carolina</i>	Shrub	PASTURE ROSE
2	<i>Rubus occidentalis</i>	Shrub	BLACK RASPBERRY
3	<i>Ruellia humilis</i>	P-Forb	HAIRY RUELLIA
5	<i>Schizachyrium scoparium</i>	P-Grass	LITTLE BLUESTEM
5	<i>Silphium integrifolium</i>	P-Forb	ROSIN WEED
5	<i>Silphium laciniatum</i>	P-Forb	COMPASS PLANT
4	<i>Silphium terebinthinaceum</i>	P-Forb	PRAIRIE DOCK
4	<i>Smilax lasioneuron</i>	H-Vine	COMMON CARRION FLOWER
1	<i>Solidago canadensis</i>	P-Forb	CANADA GOLDENROD
4	<i>Solidago rigida</i>	P-Forb	RIGID GOLDENROD
4	<i>Spartina pectinata</i>	P-Grass	PRAIRIE CORD GRASS
6	<i>Stipa spartea</i>	P-Grass	PORCUPINE GRASS
3	<i>Tradescantia ohiensis</i>	P-Forb	COMMON SPIDERWORT
0	TRAGOPOGON PRATENSIS	B-Forb	COMMON GOAT'S BEARD
3	<i>Viola sororia</i>	P-Forb	WOOLY BLUE VIOLET
2	<i>Vitis riparia</i>	W-Vine	RIVERBANK GRAPE