

ILLINOIS WILDLIFE PRESERVATION FUND
FINAL REPORT

March 31, 2006

**Botanical Inventory of Prairie Ridge State Natural Area,
Jasper County, Illinois**

Gordon C. Tucker (Principal Investigator)

Sean Jones, April McDonnell, Bob Edgin, and John E. Ebinger (Collaborators)

Dept. of Biological Sciences

Eastern Illinois University

Charleston, IL 61920-3099

gctucker@eiu.edu

Prairie Ridge State Natural Area comprises 2400 acres in the Southern Till Plain Natural Division. Of this, 567 acres have been set aside as dedicated nature preserve.¹ Prairie Ridge is included in the Illinois Natural Areas Inventory and is rated as one of the five most significant grassland habitat complexes in Illinois (Simpson & Esker, 1997). Prairie Ridge is well known for supporting the only population of Greater Prairie Chickens in the state. There is abundant information on the site's fauna, especially breeding birds (Simpson, 1998). However, only two studies have focused on the plant life. A natural prairie restoration was studied by Edgin & Ebinger (2000), and the five tracts of man-made prairie restorations were surveyed by Kessler, Tucker & Ebinger (2001). In total, these two studies dealt with only about 20% of the preserve. The incentive of the present study was to complete an inventory of the vascular plant species, as well as providing quantitative data on the grassland communities at the preserve.

The site was visited by the PI 25 times during the growing seasons of 2005 and 2006, to observe and collect plant specimens. Field work cover the growing season from April through October. A vouchered list of all plant taxa is provided in Appendix 1. Specimens are labeled, and accessioned into the Stover-Ebinger Herbarium of Eastern Illinois University. Vegetation sampling of the community was carried out using standard methods (Mueller-Dombois & Ellenberg, 1974). A graduate student, Sean Jones, was hired to work 120 hours as well, from August 2005 through March 2006. Quantitative abundance of herbaceous and woody species was determined using standard methods (Bailey & Poulton, 1968).

The preserve supports a total of 495 vascular plant species. Of these, 400 are native species. Thus, the percentage of exotic species here, 19%, is substantially less than that of Illinois as a whole, which is 31% (Mohlenbrock, 2002). The average coefficient of conservatism for all species was determined following Teft et al. (1999). This was 3.1 for all species and 3.75 for native species only. The Floristic Quality Index, calculated by the same method, was 60.

¹ NOTE: Although Prairie Ridge includes properties in Marion County, near Kinmundy, this project was limited to the properties in Jasper County.

However, the FQI is designed to assess smaller tracts, and the high value is probably not meaningful.

Vegetation sampling was carried out following standard methods. Transects were sampled from late August through early October 2005. A total of 12 50 m transects was sampled in grassland areas. The locations and data are presented in Appendix 1. The average number of species per transect was 12.75, with a range from 9 to 18.

We found no new state records on the preserve during 2005—2006. However, we did document a total of 40 new county records for Jasper County. No state listed species were found, but a number of interesting species were seen, including two orchids, *Platanthera peramoena* and *Liparis lilifolia*. Some genera are especially well represented. The author is not aware of any other site in the state that has so many species of *Asclepias* (milkweed) as does Prairie Ridge.

Exotic species: These are sometimes a problem in grassland, forest, and wetlands, and in site management plans. Exact inventory and identification allow for appropriate measures for any that might need to be removed, controlled, or managed. The number of exotics that are genuinely plentiful and widespread at the preserve is few. *Phragmites australis* occurs at one tract in a localized tract that could be removed. Woody exotics are few in the grassland areas, apparently effectively controlled by mowing and burning practices.

Wetland Plants: Created wetlands are important features of the preserve. A brief survey by the Principal Investigator and EIU Taxonomy class in September, 2000 found several wetland plants that were new county records: *Potamogeton illinoensis*, *Scirpus georgianus*, *Scirpus purshianus*, and the non-native *Scirpus mucronatus*. Additionally a new state record was found (Tucker 2001):, *Scirpus americanus* (*S. olneyi*), which was probably brought in by migrating waterfowl, as was the case in neighboring Missouri (Yatskievych, 2001).

Further Research Plans. The results of this study will be submitted for publication in a suitable peer-reviewed journal, such as *Erigenia*, *Sida Contributions to Botany*, or *Transactions of the Illinois State Academy of Science*, in the Fall of 2006. Because the 2005 season included several weeks of drought, we plan to make regular visits to Prairie Ridge during the 2006 growing season, to search for species that may not have been evident last year. Also, we plan to monitor the wetlands for additional species. This is especially important because a series of vernal pool wetlands was created last year for amphibian breeding habitat; these sites may well be a source of additional species.

References:

- Bailey, A.W. & C.E. Poulton. 1968. Plant communities and environmental relationships in a portion of the Tillamook Burn, northwestern Oregon. *Ecology* 49: 1-13.
- Edgin, B., & J.E. Ebinger. 2000. Vegetation of a successional prairie at Prairie Ridge State Natural Area, Jasper County, Illinois. *Castanea* 65: 139-146.
- Kessler, A., G.C. Tucker, & J.E. Ebinger. 2001. Prairie Restorations at Prairie Ridge State Natural Area, Jasper County, Illinois. *Transactions of the Illinois State Academy of Science* 94: 127-138.
- Mohlenbrock, R. 2002. *Vascular Flora of Illinois*. SIU Press, Carbondale & Edwardsville.

- Mueller-Dombois, D., & H. Ellenberg. 1974. Aims and methods of vegetation ecology. John Wiley and Sons, New York, New York.
- Simpson, S. A. 1998. Prairie Ridge State Natural Area: a grassland bird success story involving 40 years of cooperation among public agencies, private conservation organizations and dedicated individuals. *Illinois Audubon* 266:4-9.
- _____ & T.L. Esker. 1997. Prairie Ridge State Natural Area Habitat Plan. Illinois Dept. of Natural Resources: Division of Natural Heritage. vii + 80 pp.
- Taft, J.B., G.S. Wilhelm, D.M. Ladd, & L.A. Masters. 1997. Floristic quality assessment for vegetation in Illinois, a method for assessing vegetation integrity. *Erigenia* 15: 1-95.
- Tucker, G.C. 2001. *Scirpus* sensu lato (Cyperaceae) in Illinois: an update. *Transactions of the Illinois State Academy of Science* 94: 53.
- Yatskievych, G. 2001. Steyermark's Flora of Missouri, vol. 1, Monocotyledons. Missouri Dept. of Conservation.

Appendix 1.

A list of the vascular flora of Prairie Ridge State Natural Area, Jasper County, Illinois from 1998--2005. Families, genera, and species are arranged alphabetically. Nomenclature generally follows Mohlenbrock (2002). Taxa that are introduced are preceded by an asterisk. Collection numbers follow each species. Collections made by Bob Edgin are preceded by E; those by Annette Kessler are preceded by K; those by Tucker are preceded by T; names of other collectors are spelled out. All specimens are deposited at EIU, with some duplicates at ILLS, MO, and ISM.

FERNS

ASPLENIACEAE

Asplenium platyneuron (L.) BSP., T14050

Onoclea sensibilis L., T14200

DRYOPTERIDACEAE

Cystopteris protrusa (Weatherby) Blasd., T13973

Polystichum acrostichoides (Michx.) Schott, T14086

EQUISETACEAE

Equisetum arvense L., T14144

OPHIOGLOSSACEAE

Botrychium dissectum Spreng. var. *dissectum*, T14552A

Botrychium dissectum Spreng. var. *obliquum* (Muhl.) Clute, T14551

Botrychium virginianum (L.) Sw., T14021

THELYPTERIDACEAE

Phegopteris hexagonoptera (Michx.) Fée, T14085

GYMNOSPERMS

CUPRESSACEAE

Juniperus virginiana L., T13932

DICOTYLEDONEAE

ACANTHACEAE

Justicia americana (L.) Vahl, T14071

Ruellia humilis Nutt. K348, T13623

ACERACEAE

Acer × *freemanii* Murray, T14047

Acer rubrum L., T14041

Acer negundo L., T14541

Acer saccharinum Marsh., obs.

Acer saccharum Marsh., obs.

AMARANTHACEAE

Amaranthus powellii S. Wats., T14425

Amaranthus retroflexus L., T14432
Amaranthus tamariscinus Nutt., T14497

ANACARDIACEAE

Rhus glabra L., K358
Toxicodendron radicans (L.) Kuntze, T12349

APIACEAE

Cicuta maculata L., 14129
Eryngium yuccifolium Michx. K365
Pastinaca sativa L., T13636
Sanicula canadensis L., T14128
Zizia aurea (L.) Koch, T13925

APOCYNACEAE

Amsonia tabernaemontana Walt., T13995
Apocynum androsaemifolium L., obs.
Apocynum cannabinum L., T12326

ARALIACEAE

Panax quinquefolius L., T14135

ARISTOLOCHIACEAE

Aristolochia serpentaria L., T14082
Asarum canadense L., T14053

ASCLEPIADACEAE

Asclepias hirtella (Pennell) Woodson, K363
Asclepias incarnata L., K393
Asclepias purpurascens L., T14045
Asclepias sullivantii Engelm., T14065
Asclepias syriaca L., K331
Asclepias tuberosa L. ssp. *interior* Woodson, T14063
Asclepias verticillata L., K400
Asclepias viridiflora Raf., T14096

ASTERACEAE

**Achillea millefolium* L. K222
Ambrosia bidentata Michx. K418, T12342
Ambrosia artemisifolia L., T12341, T14409
Antennaria plantaginifolia (L.) Richards., obs.
Aster lanceolatus Willd., T14529
Aster lateriflorus (L.) Britt., T14525
Aster novae-angliae L., T13870
Aster pilosus Willd., T14481
Aster turbinellus Lindl., T14535
Aster laevis L., T14482
Aster ericoides L., T14483
Aster simplex Willd., T14501
Bidens aristosa (Michx.) Britt. K423, T12369
Bidens cernua L., T12368, T12362

Bidens connata Muhl., T13860
Bidens bipinnata auth., T14426
Boltonia asteroides (L.) L'Hér. T12343
Cirsium discolor (Muhl.) Spreng. E475
Conoclinium coelestinum (L.) DC., T13852
Conyza canadensis (L.) Cronq. T12350
Coreopsis lanceolata L., T13990
Coreopsis palmata Nutt. K301
Echinacea purpurea (L.) Moench., T14512
Eclipta prostrata (L.) L., T13867
Erechtites hieracifolia (L.) Raf. ex DC. T12337
Erigeron annuus (L.) Pers., T12338
Erigeron philadelphicus L., T13973
Erigeron strigosus Muhl. K290, T14042
Eupatorium purpureum, obs.
Eupatorium perfoliatum L. K412
Eupatorium serotinum Michx. T12334
Euthamia graminifolia (L.) Salisb. T12366
Euthamia gymnospermoides Greene, Jones 05-1
Gnaphalium obtusifolium L. K431
Helenium autumnale L., Cunningham 31
Helianthus grosseserratus Martens T12345
Helianthus strumosus L., Cunningham 33
Helianthus mollis Lam. K404
Helianthus pauciflorus Nutt., T14421
Krigia dandelion (L.) Nutt., T13974
Lactuca canadensis L., T12348
Lactuca floridana (L.) Gaertn., T14407
**Lactuca serriola* L., T12333
**Leucanthemum vulgare* Lam. K309
Liatris aspera Michx., T14386
Liatris pycnostachya Michx., K381, T12328
Matricaria discoidea DC., T14029
Ratibida pinnata (Vent.) Barnh., T14391
Rudbeckia hirta L., K289
Rudbeckia laciniata L., T14388
Senecio glabellus Poir., K209
Silphium × *deamii* author, obs.
Silphium integrifolium author, T14486
Silphium laciniatum L., obs.
Silphium perfoliatum L., T14431.
Silphium terebinthinaceum Jacq., E448
Solidago canadensis L., E1065, T14415
Solidago juncea Ait., K416
Solidago nemoralis Ait. K419
Solidago rigida L. T12330
Solidago ulmifolia Muhl. ex Willd., T14385
**Sonchus asper* (L.) Hill. K345
**Taraxacum officinale* Weber ex Wiggers, T14498
Tragopogon pratensis L., T14035
Verbesina alternifolia (L.) Britt., T14387

Verbesina helianthoides Michx., T14075
Vernonia missurica Raf. K401
Xanthium strumarium L., Cunningham 34

BALSAMINACEAE

Impatiens capensis Meerb., obs.

BERBERIDACEAE

Podophyllum peltatum L., T14091

BETULACEAE

Betula nigra L., T14522
Corylus americana Walt., obs.
Carpinus caroliniana Walt. var. *virginiana* (Marsh.) Fernald, T14521

BIGNONIACEAE

Campsis radicans (L.) Seem., obs.

BORAGINACEAE

Mertensia virginica L., obs.
Myosotis verna Nutt. K205, T13937

BRASSICACEAE

Arabis sp., T14073
Arabidopsis thaliana (L.) Heynh., T13928
**Barbarea vulgaris* R.Br., K204
**Capsella bursa-pastoris* L., T13936
Cardamine concatenata (Michx.) O. Schwartz, T13971
Cardamine parviflora L. K206, T13929
**Lepidium campestre* (L.) R.Br. ex Ait., T14060
Lepidium virginicum L. T13967
**Rorippa sylvestris* (L.) Besser, T13631
Thlaspi arvense L., T13938

CAESALPINACEAE

Cassia fasciculata Michx. K387
Cassia marilandica, T14392
Cercis canadensis L., obs.
Gleditsia triacanthos L., T14007

CALLITRICHACEAE

Callitriche terrestris Austin, T13962

CAMPANULACEAE

Campanulastrum americanum (L.) Sm., T14209
Lobelia inflata Lam., T14411
Lobelia spicata L., K396
Triodanis perfoliata (L.) Nieuwl., K298

CAPPARIDACEAE

Polanisia dodecandra (L.) DC., T14199

CAPRIFOLIACEAE

- **Lonicera japonica* Thunb., K254
- **Lonicera maackii* (Rupr.) Maxim., obs.
- Sambucus canadensis* L., T14095.
- Symphoricarpos orbiculata* (L.) Moench, T12379

CARYOPHYLLACEAE

- **Dianthus armeria* L. K235
- Silene stellata* (L.) Ait. f., T14138
- Stellaria graminea* L., T14057

CELASTRACEAE

- Celastrus scandens* L., T14539

CISTACEAE

- Lechea* sp., T14090

CONVOLVULACEAE

- Convolvulus arvensis* L., 14126
- **Ipomoea hederacea* Jacq., T14496
- Ipomoea lacunosa* auth., T14502

CORNACEAE

- Cornus drummondii* Meyer, T14040
- Cornus florida* L., T14149

CRASSULACEAE

- Hylotelephium telephium* (L.) H. Ohba, T13624

EBENACEAE

- Diospyros virginiana* L., T12346

ELAEAGNACEAE

- Elaeagnus angustifolia* L., obs.

EUPHORBIACEAE

- Acalypha gracilens* A. Gray, T14427
- Acalypha virginica* L. K369, 427
- Chamaesyce maculata* (L.) Sm., T13869, T14487
- Chamaesyce nutans* (Lag.) Sm., T13699
- Croton* sp., T14389
- Euphorbia corollata* L. K437

FABACEAE

- Amorpha fruticosa* L., T14058
- Apios americana* Medic., obs.
- Baptisia lactea* (Raf.) Thieret, K366
- Desmodium paniculatum* (L.) DC., K414
- **Kummerowia stipulacea* (Maxim.) Makino, T13853
- Lespedeza capitata* Michx., E463, TT14417
- Lespedeza virginica* (L.) Britt., T14420

- **Medicago lupulina* L., T14097
- **Medicago sativa* L., T13849
- **Melilotus alba* Medic., K300
- Securigera varia* (L.) Lassen, T14139
- Strophostyles leiosperma* (Torr. & Gray) Piper K436, T14542
- **Trifolium campestre* Schreb., T13982
- **Trifolium hybridum* L., K376, T14036
- **Trifolium pratense* L., K311
- **Trifolium repens* L., T14074

FAGACEAE

- Quercus X saulii*, T14081
- Quercus bicolor* Willd., obs.
- Quercus imbricaria* Michx.
- Quercus x leana* Nutt., T14207
- Quercus marilandica* Muenchh., obs.
- Quercus palustris* Muenchh.
- Quercus rubra* L., obs
- Quercus stellata* Wangh., T13981
- Quercus velutina* Lam., obs.

FUMARIACEAE

- Sanguinaria canadensis* L., obs.

GERANIACEAE

- Geranium carolinianum* L., T14031
- Geranium maculatum* L., T14019

GROSSULARIACEAE

- Ribes missouriense* Nutt., 14048

HYDRANGEACEAE

- Hydrangea arborescens* L., obs.

HYPERICACEAE

- Hypericum drummondii* (Grev. & Hook.) Torr. & A. Gray K343
- Hypericum mutilum* L. K292, T12324
- **Hypericum perforatum* L. K302
- Hypericum punctatum* Lam. K382
- Hypericum sphaerocarpum* Michx., T14092

JUGLANDACEAE

- Carya glabra* (Mill.) Sweet, T14210, T14384
- Carya ovata* (Mill.) K. Koch, T14202
- Juglans nigra* L., obs.

LAMIACEAE

- Blephilia hirsuta* author, T14079
- **Leonurus cardiaca* L., T14033
- Lycopus americanus* Muhl., obs.
- Lycopus rubellus* Moench., T14548

Monarda bradburiana Beck, T14013
Monarda fistulosa L., K380
Physostegia sp., T14437
**Prunella vulgaris* L., K389
Pycnanthemum tenuifolium Schrad. K318, T13641
Pycnanthemum virginianum auth., T14485
Scutellaria leonardii ?, T14148
Stachys sp., T14140
Stachys aspera Michx., T14413
Teucrium canadense L. K367, T13639

LINACEAE

Linum medium (Planch.) Britton K403, T12344

LYTHRACEAE

Ammannia coccinea Rottb., T14534
Lythrum alatum Pursh, T13645

MALVACEAE

Abutilon theophrasti L., T14433, T14499
Hibiscus laevis All., T13851
Hibiscus palustris L., T14500
Sida spinosa L., T14495

MENISPERMACEAE

Menispermum canadense L., obs.

MIMOSACEAE

Desmanthus illinoensis (Michx.) MacM. K347, Cunningham 28

MOLLUGINACEAE

**Mollugo verticillata* L. T12335

MORACEAE

**Maclura pomifera* (Raf.) Schneider, T14006
**Morus alba* L., T13968
Morus rubra L., T14527

NELUMBONACEAE

Nelumbo lutea Walt., T14550

OLEACEAE

Fraxinus americana L., T14528
Fraxinus lanceolata Borkh., T14130
Fraxinus pennsylvanica Marsh., T14046

ONAGRACEAE

Circaea lutetiana L., T14066
Epilobium coloratum Biehler T12336
Gaura biennis L. K406
Ludwigia alternifolia L. K368

Ludwigia palustris (L.) Ell., T14436
**Ludwigia peploides* ssp. *glabrescens* (HBK.) Raven, T14435
Oenothera biennis L. K386, E1064

OXALIDACEAE

Oxalis dillenii Jacq. K210, T12339
Oxalis violacea L. K220

PASSIFLORACEAE

Passiflora lutea L. var. *glabriflora* Fernald, T14201

PHYTOLACCACEAE

Phytolacca americana L., obs.

PLANTAGINACEAE

Plantago aristata Michx., T13646
**Plantago lanceolata* L. K316
Plantago major L., T14198
Plantago pusilla Nutt., obs.
Plantago rugelii Dcne., obs.
Plantago virginica L. K261

POLEMONIACEAE

Hydrophyllum virginianum L., T14059

POLYGALACEAE

Polygala sanguinea L. K325, T14064
Polygala verticillata L. K314

POLYGONACEAE

**Polygonum cespitosum* Blume, T14157
Polygonum lapathifolium L., E529
Polygonum pensylvanicum L. K407, E530
Polygonum punctatum Ell. T12333
Polygonum tenue Michx. T12353
**Polygonum persicaria* L., 13864
Polygonum punctatum auth., T14430
Polygonum virginianum L., T14414
**Rumex acetosella* L. E358, T13985
**Rumex crispus* L. K247
Rumex mexicanus Meisn., E434

PORTULACACEAE

Claytonia virginica L. K207

PRIMULACEAE

**Anagallis arvensis* L., E6123
Dodecatheon meadia L., T13927
Lysimachia hybrida L., T14203
**Lysimachia nummularia* L., obs.

RANUNCULACEAE

Anemone canadensis author, obs.
Hydrastis canadensis L., T14015
Myosurus minimus L., T13926
Ranunculus abortivus L., T13933
Ranunculus sceleratus L., T13963
Thalictrum dasycarpum, T14008

ROSACEAE

Agrimonia rostellata Wallr., obs.
Crataegus crus-galli L., T13965
Crataegus mollis (Torrey & A. Gray) Scheele, obs.
Fragaria virginiana L. K221
Geum canadense L., T14094
Geum laciniatum Murray, T13644
Geum vernum (Raf.) Torr. & A. Gray, T14022
Malus ioensis (Wood) Britt., T12347
Potentilla simplex Michx., K219
Porteranthus stipulaceus (Muhl. ex Willd) Britt., T14039
**Potentilla recta* L., K291
Prunus serotina Ehrh., obs.
Rosa blanda Ait., T14410
**Rosa canina* L., T14049
Rosa carolina L., T13989
**Rosa multiflora* Thunb., T13934
Rosa setigera Michx., T14068
Rosa suffulta Greene, K357
Rubus allegheniensis Porter, T13981
Rubus flagellaris Willd., K214, T14137
Rubus pensilvanicus Poir., T13960, T14017
Rubus occidentalis L., T14536.

RUBIACEAE

Cephalanthus occidentalis L., T14540
**Cruciata pedemontana* (Bellardi) Ehrend., T13626
Diodia teres Walt., T14424
Galium aparine L., K211
Galium circaezans Michx., T14072
Galium concinnum author, T14078
Galium obtusum Bigel., K225
Galium tinctorium L., T13850

SALICACEAE

Populus deltoides Bartr. ex Marsh., E522
Salix humilis Marsh., E387, T14205
Salix exigua Nutt. [*S. interior* Rowlee], obs.
Salix nigra Marsh., E487

SANTALACEAE

Comandra umbellata author, T14077

SAURURACEAE

Saururus cernuus L., T14080

SAXIFRAGACEAE

Penthorum sedoides L., T 14147

SCROPHULARIACEAE

Agalinis purpurea (L.) Pennell, T12340

Gratiola neglecta Torr., K255

Lindernia dubia (L.) Pennell var. *anagallidea* (Michx.) Cooperrider, T12325

Mimulus ringens L., K391

Penstemon digitalis Nutt., K229

Penstemon pallidus Small, K236

Scrophularia marilandica L., obs.

**Verbascum blattaria* L., 14127

**Verbascum thapsus* L., obs.

Veronica arvensis L., T13942

Veronica peregrina L., T13939

SOLANACEAE

Solanum carolinense L. K362

Physalis heterophylla Nees, T13625

Physalis virginiana Mill., T14493

STAPHYLEACEAE

Staphylea trifolia L., T14084

TILIACEAE

Tilia americana L., T14151

ULMACEAE

Celtis occidentalis L., T14027.

Ulmus americana L., T13955

Ulmus rubra Michx., 14150

URTICACEAE

Boehmeria cylindrica (L.) Sw., obs.

Laportea canadensis (L.) Wedd., obs.

Parietaria pensylvanica Muhl. ex Willd., T14020

Pilea pumila (L.) A. Gray, T14530

VALERIANACEAE

Valerianella radiata (L.) Duf., T13941

VERBENACEAE

Phryma leptostachya L., T14155

Verbena bracteata Lag. & Rodr., T13930

Verbena hastata L. K332

Verbena urticifolia L., obs.

Verbena stricta L., T14511

VIOLACEAE

- Viola pratincola* Greene K315, E438
Viola pubescens Ait., T14026

VITACEAE

- Parthenocissus quinquefolia* (L.) Planch. ex DC., obs.
Vitis aestivalis Michx., T14031
Vitis riparia Michx., obs.
Vitis vulpina L., T14030

MONOCOTYLEDONEAE

ALISMATACEAE

- Alisma subcordatum* Raf., obs.
Sagittaria latifolia Willd., T14145

AMARYLLIDACEAE

- Allium canadense* L., T13980
**Allium sativum* L., T14133
Allium vineale L., T14032.
**Narcissus poeticus* L., T13924

ARACEAE

- Acorus calamus* L., T13988
Arisaema dracontium (L.) Schott, T14009
Arisaema triphyllum (L.) Schott, T13972

COMMELINACEAE

- **Commelina communis* L., T14156
Tradescantia ohiensis Raf., T14002
Tradescantia virginiana L. K371

CYPERACEAE

- Carex amphibola* Steudel, T14087
Carex annectens (Bickn.) Bickn., obs.
Carex blanda Dewey K242, T13970
Carex bushii Mack. K249, T13987
Carex cephalophora Willd. K245
Carex cristatella Britton & Brown K296
Carex festucacea Willd., T13961
Carex frankii Kunth, T13632
Carex granularis Willd., T14011
Carex grayi Torrey, T13998
Carex hirtifolia Mack., T13975
Carex hirsutella Mack. K216
Carex lupulina Willd., T14146
Carex lurida Wahl., T14001
Carex missouriensis P. Rothr. & Reznicek, T14000
Carex muskingumensis Schwein., T14549
Carex pellita Willd., T13969

Carex pensylvanica Lam., obs.
Carex radiata (Wahlenb.) Small, T13977
Carex scoparia Willd. K275
Carex shortiana Dewey, T13996
Carex sparganioides Muhl. ex Willd, T14056
Carex squarrosa L., T13638
Carex typhina Michx., T14037
Carex vulpinoidea Michx. K285
Cyperus acuminatus Torr. & Hook. K430
Cyperus erythrorhizos Muhl., T14544
Cyperus esculentus L. var. *leptostachyus* Boeck., K312, T13858
Cyperus echinatus (L.) A. Wood, K338
Cyperus odoratus L., T12322, T13865
Cyperus strigosus L. K355
Eleocharis acicularis (L.) R. & S., T14142
Eleocharis intermedia Schultes, T14543
Eleocharis obtusa (Willd.) Schultes, T12365
Eleocharis ovata (Roth) R. & S., T13859
Eleocharis palustris (L.) R. & S., T13856
Eleocharis verrucosa (Svens.) Harms, K215
Fimbristylis autumnalis (L.) R. & S., T12320
Schoenoplectus americanus, T12363
Schoenoplectus mucronatus (L.) Palla, T12321
Schoenoplectus pungens (Vahl) Palla, T12364, T14143
Schoenoplectus purshianus (Fernald) M.T. Strong, T12375
Schoenoplectus tabernaemontani (K.C. Gmel.) Palla, obs.
Scirpus cyperinus (L.) Kunth, T14505
Scirpus georgianus Harper, K238, T13642
Scirpus pendulus Muhl., T13999

DIOSCOREACEAE

Dioscorea villosa L., T14523

IRIDACEAE

Iris × *germanica* L., T13983
**Iris pseudacorus* L., T13994
Iris shrevei Small, T13993
Sisyrinchium angustifolium Mill., obs.

JUNCACEAE

Juncus sp., T14511
Juncus acuminatus Michx. K250
Juncus biflorus Ell. K359
Juncus brachycarpus Engelm. K374
Juncus interior Wieg. K353
Juncus torreyi Coville. K323
Luzula multiflora (Retz.) Lejeune
var. *echinata* (Small) F.J. Herm., obs. by Kessler

LEMNACEAE

Lemna minor L., T14508

LILIACEAE

- Asparagus officinalis* L., T13984
- Camassia scilloides* (Raf.) Cory K218
- Hemerocallis fulva* L., obs.
- **Ornithogalum umbellatum* L., T13923
- Smilacina racemosa* (L.) Desf., T14014
- Trillium recurvatum* Beck, T13979
- Uvularia perfoliata* L., T14083
- **Yucca flaccida* Haw T12377

ORCHIDACEAE

- Liparis lilifolia* author, T14069
- Platanthera peramoena* (A. Gray) A. Gray, obs.
- Spiranthes cernua* author, T14546

POACEAE

- Agrostis gigantea* Roth, T13629, T13640
- Agrostis hyemalis* (Walt.) BSP. K259
- Agrostis alba* L. K326
- Alopecurus carolinianus* Walt. K212
- **Alopecurus pratensis* L. K201
- Andropogon gerardii* Vitman E473
- Andropogon virginicus* L., T14419
- Aristida* sp., T14423
- **Bothriochloa laguroides* (DC.) Herter, T14484
- Brachyelytrum erectum* (Roth) Beauv., T14152
- Bromus* sp., T14018
- **Bromus commutatus* Schrad. K266, T13628
- **Bromus inermis* Leyss., obs.
- **Bromus japonicus* Thunb., T13991
- **Bromus tectorum* L., T13954
- Bouteloua curtipendula* (Michx.) Torr., T14480
- Buchloe dactyloides* (Nutt.) Engelm., T14494
- Cenchrus longispinus* (Hack.) Fernald, T14504
- Chasmanthium latifolium* (Michx.) Yates, T14204
- Cinna arundinacea* L., T14416
- Danthonia spicata* (L.) R. & S., T14043
- Digitaria sanguinalis* (L.) Scop., T14428
- **Echinochloa crus-galli* (L.) Beauv. K409
- **Eleusine indica* (L.) Gaertn., T14533
- Elymus canadensis* L., T12329
- Elymus hystrix* L., T14076
- Elymus villosus* Muhl., T14070
- Elymus virginicus* L. T12351
- Elytrigia repens* (L.) Nevski, T14132
- Eragrostis cilianensis* (All.) Vign., T14197
- Eragrostis hypnoides* (Lam.) BSP., obs.
- Eragrostis pectinacea* (Michx.) Nees, T14408
- **Festuca arundinacea* Schreb. K241, T13635
- Festuca subverticillata* (Pers.) Alexe'ev, T13978
- **Festuca pratensis* Hudson K258

Glyceria striata (Lam.) Hitchc., T13637
**Hordeum jubatum* L., T14003
Hordeum pusillum L., T13957
Leersia oryzoides (L.) Sw., T14503
Leersia virginica Willd., T14524
Leptochloa acuminata (Nash) Mohlenbr., T14418
Muhlenbergia frondosa (Poir.) Fernald, T14526
Muhlenbergia glabriflora Scribn. T12378
Muhlenbergia schreberi Gmel., T14412
Panicum boscii Poir., T14025, T14154
Panicum capillare L. K396
Panicum dichotomiflorum Michx., T14429
Panicum lanuginosum Ell. K434
Panicum virgatum L. K397
Panicum sp., T14055
Paspalum ciliatifolium Michx. K429
Paspalum laeve Michx. K425
Phalaris arundinacea L., T13992
**Phragmites australis* (Cav.) Trin., obs.
**Phleum pratense* L., K335
**Poa annua* L., T13931
**Poa compressa* L. K239, T13630
**Poa pratensis* L., T13943
Poa sylvestris A. Gray, T14012
Poa trivialis A. Gray, T14016
**Sclerochloa dura* (L.) Beauv., T14028
**Setaria faberi* Herrm. K426
**Setaria pumila* auth., T14491
Schizachyrium scoparium (Michx.) Nash, K440
Sorghastrum nutans (L.) Nash, K408
Sphenopholis intermedia (Rydb.) Rydb., obs.
Sporobolus neglectus Nash, T14422
Tridens flavus (L.) Hitchc., T14538
Tripsacum dactyloides (L.) L., T14438
Vulpia octoflora (Walt.) Rydb., T14044

POTAMOGETONACEAE

Potamogeton foliosus Raf., T14507
Potamogeton nodosus Poir., T12376, T14506

SMILACACEAE

Smilax tamnoides L., T14537.
Smilax lasioneuron Hook., obs.

TYPHACEAE

Typha angustifolia L., obs.
Typha domingensis Pers., T13861
Typha latifolia L., obs.

Transect number	Tract	Location	orientation	Total species
1	CIPS Management	NW of parking area	E--W	9
2	CIPS Management	SW of Int. of 700 N and 700 E	N--S	16
3	CIPS Management	S of parking lot, N of Lotus Pond	N--S	17
4	Marshall Field	W of Cemetery	E--W	13
5	Ridgway Grassland	between parking area and obs. pla	E--W	13
6	Donsbach	N of eastern gate	N--S	7
7	Graber Grassland	N of wooded area	E--W	13
8	Donsbach	N of IDNR barn	N--S	18
9	Cyrus Mark	NE of Cemetery	N--S	10
10	Jamerson McCormack	E of woods, beyond end of road	E--W	9
11	Galbreath	SE of Van Treese Cemetery	E--W	11
12	Jamerson McCormack	due N of end of access road	N--S	17

Average

12.75

Transect 1	Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
	<i>Desmanthus illinoensis</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.012821	1.437
	<i>Toxicodendron radicans</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.012821	1.437
	<i>Tridens flavus</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.012821	1.437
	Soil (no vegetation)	0	0	0	0	1	0	0	2.5	0.032	1	0.04	0.012821	4.511
	<i>Fraxinus americana</i>	0	0	3	0	0	0	0	1.86	0.024	3	0.12	0.038462	6.249
	<i>Carya glabra</i>	1	2	0	1	0	0	0	1.62	0.021	4	0.16	0.051282	7.221
	<i>Rubus allegheniensis</i>	0	1	3	0	1	1	0	7.9	0.102	6	0.24	0.076923	17.896
	<i>Andropogon gerardii</i>	0	1	13	3	0	1	0	15.68	0.203	18	0.72	0.230769	43.330
	<i>Sorghastrum nutans</i>	0	0	8	6	2	2	0	24.96	0.322	18	0.72	0.230769	55.317
	<i>Solidago canadensis</i>	1	0	18	4	1	1	0	22.54	0.291	25	1	0.320513	61.165
									77.42		78			200.000

Transect 2	Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
	<i>Achillea millefolium</i>	2	3	0	0	0	0	0	0.4	0.004	5	0.2	0.03649635	4.031
	<i>Ambrosia artemisiifolia</i>	0	2	0	0	0	0	0	0.24	0.002	2	0.08	0.01459854	1.689
	<i>Bromus inermis</i>	0	2	7	3	0	0	0	8.66	0.083	12	0.48	0.087591241	17.015
	<i>Campsis radicans</i>	0	1	0	0	0	0	0	0.12	0.001	1	0.04	0.00729927	0.844
	<i>Lespedeza stricta</i>	0	0	1	0	0	0	0	0.62	0.006	1	0.04	0.00729927	1.321
	<i>Parthenocissus quinquefolia</i>	0	3	2	0	0	0	0	1.6	0.015	5	0.2	0.03649635	5.175
	<i>Pycnanthemum pilosum</i>	0	0	3	1	0	0	0	3.22	0.031	4	0.16	0.02919708	5.989
	<i>Pycnanthemum tenuifolium</i>	4	6	9	0	0	0	0	6.38	0.061	19	0.76	0.138686131	19.951
	<i>Rubus allegheniensis</i>	0	4	10	3	1	0	0	13.26	0.126	18	0.72	0.131386861	25.779
	<i>Sassafras albidum</i>	0	0	2	0	0	0	0	1.24	0.012	2	0.08	0.01459854	2.642
	<i>Silphium laciniatum</i>	0	1	0	0	0	0	0	0.12	0.001	1	0.04	0.00729927	0.844
	<i>Solidago canadensis</i>	0	0	5	12	4	3	0	39.68	0.378	24	0.96	0.175182482	55.345
	<i>Symphoricarpos albus</i>	1	4	12	3	0	0	0	12.02	0.115	20	0.8	0.145985401	26.057
	<i>Toxicodendron radicans</i>	0	1	6	1	0	0	0	5.2	0.050	8	0.32	0.058394161	10.797
	<i>Tridens flavus</i>	1	1	0	0	0	0	0	0.14	0.001	2	0.08	0.01459854	1.593
	<i>Vernonia missurica</i>	0	1	3	6	0	0	0	10.14	0.097	10	0.4	0.072992701	16.966
	Soil (no vegetation)	0	0	3	0	0	0	0	1.86	0.018	3	0.12	0.02189781	3.963

200.000

137

104.9

Transect 3

Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
<i>Achillea millefolium</i>	1	2	2	0	0	0	0	1.5	0.020	5	0.2	0.035461	5.500
<i>Agalinis purpurea</i>	0	3	1	0	0	0	0	0.98	0.013	4	0.16	0.028369	4.114
<i>Phleum pratense</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007092	0.866
<i>Ambrosia artemisiifolia</i>	0	8	5	0	0	0	0	4.06	0.053	13	0.52	0.092199	14.509
<i>Andropogon gerardii</i>	1	4	10	5	0	0	0	13.5	0.176	20	0.8	0.141844	31.772
<i>Bidens frondosa</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007092	0.866
<i>Bidens tripartita</i>	1	1	1	0	0	0	0	0.76	0.010	3	0.12	0.021277	3.118
<i>Bromus inermis</i>	0	0	5	0	0	0	0	3.1	0.040	5	0.2	0.035461	7.585
<i>Cassia fasciculata</i>	0	1	1	0	0	0	0	0.74	0.010	2	0.08	0.014184	2.382
<i>Panicum virgatum</i>	0	4	1	0	0	0	0	1.1	0.014	5	0.2	0.035461	4.979
<i>Pycnanthemum pilosum</i>	2	3	3	0	0	0	0	2.26	0.029	8	0.32	0.056738	8.618
<i>Rubus allegheniensis</i>	2	10	1	0	0	0	0	1.86	0.024	13	0.52	0.092199	11.643
<i>Solidago canadensis</i>	0	1	14	7	2	3	0	33.58	0.437	27	1.08	0.191489	62.896
<i>Solidago juncea</i>	0	0	2	0	0	0	0	1.24	0.016	2	0.08	0.014184	3.034
<i>Sorghastrum nutans</i>	0	2	7	0	0	0	0	4.58	0.060	9	0.36	0.06383	12.350
<i>Symphoricarpos albus</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007092	0.866
<i>Vernonia missurica</i>	0	0	1	0	0	0	0	0.62	0.008	1	0.04	0.007092	1.517
Soil (no vegetation)	0	13	8	0	0	0	0	6.52	0.085	21	0.84	0.148936	23.388

76.76

141

200.000

Transect 4

Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
<i>Achillea millefolium</i>	2	0	0	0	0	0	0	0.04	0.001	2	0.08	0.016	1.614
<i>Ambrosia artemisiifolia</i>	0	0	4	7	12	2	0	48.84	0.628	25	1	0.195	82.324
<i>Andropogon gerardii</i>	0	0	0	0	1	0	0	2.5	0.032	1	0.04	0.008	3.995
<i>Bidens frondosa</i>	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.008	0.807
<i>Bromus inermis</i>	0	6	1	0	0	0	0	1.34	0.017	7	0.28	0.055	7.192
<i>Chamaecrista nictitans</i>	1	3	0	0	0	0	0	0.38	0.005	4	0.16	0.031	3.614
<i>Dactylis glomerata</i>	1	7	2	0	0	0	0	2.1	0.027	10	0.4	0.078	10.512
<i>Euphorbia corollata</i>	1	1	0	0	0	0	0	0.14	0.002	2	0.08	0.016	1.742
<i>Euthamia graminifolia</i>	0	0	1	0	0	0	0	0.62	0.008	1	0.04	0.008	1.578
<i>Melilotus alba</i>	2	0	2	0	0	0	0	1.28	0.016	4	0.16	0.031	4.771
<i>Rubus allegheniensis</i>	3	5	1	0	0	0	0	1.28	0.016	9	0.36	0.070	8.677
<i>Solidago canadensis</i>	0	8	16	0	0	0	0	10.88	0.140	24	0.96	0.188	32.738
<i>Trifolium pratense</i>	6	6	1	0	0	0	0	1.46	0.019	13	0.52	0.102	12.033
Soil (no vegetation)	6	10	9	0	0	0	0	6.9	0.089	25	1	0.195	28.402

77.78

128

200.000

Transect 5

Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq	I.V.
<i>Achillea millefolium</i>	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.01	1.321
<i>Aster lanceolatus</i>	0	0	2	1	0	0	0	2.6	0.051	3	0.12	0.04	8.899
<i>Aster novae-angliae</i>	0	0	1	0	0	0	0	0.62	0.012	1	0.04	0.01	2.487
<i>Desmanthus illinoensis</i>	0	0	1	0	0	0	0	0.62	0.012	1	0.04	0.01	2.487
<i>Eryngium yuccifolium</i>	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.01	1.321
<i>Monarda fistulosa</i>	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.01	1.321
<i>Phleum pratense</i>	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.01	1.321
<i>Populus deltoides</i>	2	0	0	0	0	0	0	0.04	0.001	2	0.08	0.03	2.642
<i>Ratibida pinnata</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.01	1.515
<i>Schizachyrium scoparium</i>	1	4	12	4	2	0	0	18.38	0.357	23	0.92	0.29	65.204
<i>Silphium terebinthinaceum</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.01	1.515
<i>Solidago canadensis</i>	1	1	14	5	3	1	0	26.54	0.516	25	1	0.32	83.625
<i>Sorghastrum nutans</i>	0	1	1	0	0	0	0	0.74	0.014	2	0.08	0.03	4.002
Soil (no vegetation)	7	7	1	0	0	0	0	1.6	0.031	15	0.6	0.19	22.340
								51.46		78			200.000

Transect 6	Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
	<i>Oxalis stricta</i>	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.016	1.590
	<i>Pycnanthemum pilosum</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.016	1.730
	<i>Rubus allegheniensis</i>	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.016	1.590
	<i>Solidago canadensis</i>	0	2	5	10	2	3	0	32.2	0.450	22	0.88	0.344	79.397
	<i>Solidago juncea</i>	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.016	1.590
	<i>Sorghastrum nutans</i>	0	1	5	8	7	1	0	35.02	0.490	22	0.88	0.344	83.340
	<i>Sporobolus heterolepis</i>	0	0	2	0	0	0	0	1.24	0.017	2	0.08	0.031	4.859
	Soil (no vegetation)	3	8	3	0	0	0	0	2.88	0.040	14	0.56	0.219	25.902

71.52

64

200.000

Transect 8	Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
	<i>Acer rubrum</i>	1	8	5	0	0	0	0	4.08	0.060	14	0.56	0.103	16.328
	<i>Achillea millefolium</i>	0	4	7	0	0	0	0	4.82	0.071	11	0.44	0.081	15.216
	<i>Apocynum cannabinum</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007	0.913
	<i>Aster pilosus</i>	0	2	0	0	0	0	0	0.24	0.004	2	0.08	0.015	1.826
	<i>Bromus inermis</i>	0	1	0	0	1	0	0	2.62	0.039	2	0.08	0.015	5.345
	<i>Echinacea purpurea</i>	0	0	1	0	0	0	0	0.62	0.009	1	0.04	0.007	1.652
	<i>Eupatorium serotinum</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007	0.913
	<i>Festuca arundinacea</i>	0	3	5	0	0	0	0	3.46	0.051	8	0.32	0.059	10.999
	<i>Fraxinus americana</i>	0	4	8	3	0	0	0	9.52	0.141	15	0.6	0.110	25.108
	<i>Medicago sativa</i>	0	4	1	0	0	0	0	1.1	0.016	5	0.2	0.037	5.303
	<i>Morus alba</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007	0.913
	<i>Panicum virgatum</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007	0.913
	<i>Pycnanthemum tenuifolium</i>	0	3	1	0	0	0	0	0.98	0.014	4	0.16	0.029	4.390
	<i>Schizachyrium scoparium</i>	0	6	8	1	1	0	0	9.54	0.141	16	0.64	0.118	25.873
	<i>Setaria glauca</i>	0	0	13	8	1	0	0	21.44	0.317	22	0.88	0.162	47.883
	<i>Solidago canadensis</i>	0	17	4	0	0	0	0	4.52	0.067	21	0.84	0.154	22.126
	<i>Sorghastrum nutans</i>	0	0	0	0	1	0	0	2.5	0.037	1	0.04	0.007	4.432
	<i>Taraxacum officinale</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007	0.913
	Soil (no vegetation)	0	8	1	0	0	0	0	1.58	0.023	9	0.36	0.066	8.954

200.000

136

67.62

Transect 9	Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
	<i>Andropogon gerardii</i>	0	1	10	13	0	0	0	24	0.314	24	0.96	0.245	55.862
	<i>Festuca arundinacea</i>	0	0	8	2	1	0	0	10.18	0.133	11	0.44	0.112	24.532
	<i>Panicum virgatum</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.010	1.177
	<i>Tridens flavus</i>	0	2	0	0	0	0	0	0.24	0.003	2	0.08	0.020	2.355
	<i>Poa pratensis</i>	0	0	8	1	0	0	0	6.32	0.083	9	0.36	0.092	17.445
	<i>Rubus allegheniensis</i>	0	1	8	0	0	0	0	5.08	0.066	9	0.36	0.092	15.824
	<i>Schizachyrium scoparium</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.010	1.177
	<i>Solidago canadensis</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.010	1.177
	<i>Sorghastrum nutans</i>	0	0	12	11	1	0	0	24.9	0.325	24	0.96	0.245	57.039
	<i>Toxicodendron radicans</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.010	1.177
	Soil (no vegetation)	0	8	7	0	0	0	0	5.3	0.069	15	0.6	0.153	22.234
									76.5		98			200.000

Transect 10

Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
<i>Andropogon gerardii</i>	0	1	2	6	2	2	0	21.36	0.283	13	0.52	0.1625	44.556
<i>Aster pilosus</i>	0	2	2	1	1	0	0	5.34	0.071	6	0.24	0.075	14.577
<i>Chamaecrista nictitans</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.0125	1.409
<i>Festuca arundinacea</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.0125	1.409
<i>Fraxinus americana</i>	0	2	0	0	0	0	0	0.24	0.003	2	0.08	0.025	2.818
<i>Phleum pratense</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.0125	1.409
<i>Schizachyrium scoparium</i>	0	2	1	0	0	0	0	0.86	0.011	3	0.12	0.0375	4.890
<i>Solidago canadensis</i>	0	1	17	4	2	0	0	21.1	0.280	24	0.96	0.3	57.962
<i>Sorghastrum nutans</i>	0	1	6	8	2	1	0	23.14	0.307	18	0.72	0.225	53.165
Soil (no vegetation)	0	9	1	1	0	0	0	3.06	0.041	11	0.44	0.1375	17.805
								75.46		80			200.000

Transect 11

Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
<i>Achillea millefolium</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.010	1.184
<i>Viola pratensis</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.010	1.184
<i>Pycnanthemum pilosum</i>	0	0	1	0	0	0	0	0.62	0.008	1	0.04	0.010	1.821
<i>Solidago juncea</i>	0	0	1	0	0	0	0	0.62	0.008	1	0.04	0.010	1.821
<i>Vernonia missurica</i>	0	0	1	0	0	0	0	0.62	0.008	1	0.04	0.010	1.821
<i>Pycnanthemum tenuifolium</i>	0	2	0	0	0	0	0	0.24	0.003	2	0.08	0.021	2.368
<i>Rubus allegheniensis</i>	0	4	1	0	0	0	0	1.1	0.014	5	0.2	0.052	6.556
Soil (no vegetation)	0	2	7	1	0	0	0	5.94	0.076	10	0.4	0.103	17.876
<i>Poa pratensis</i>	0	1	12	0	0	0	0	7.56	0.096	13	0.52	0.134	23.033
<i>Festuca arundinacea</i>	0	1	10	3	0	1	0	13.82	0.176	15	0.6	0.155	33.069
<i>Sorghastrum nutans</i>	0	2	9	8	3	0	0	24.2	0.308	22	0.88	0.227	53.508
<i>Solidago canadensis</i>	0	1	14	9	1	0	0	23.54	0.300	25	1	0.258	55.760

78.5

97

200.000

Transect 12

Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
<i>Acalypha gracilens</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
<i>Achillea millefolium</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
<i>Aster pilosus</i>	0	5	5	3	0	0	0	7.78	0.110	13	0.5200	0.1182	22.791
<i>Bromus inermis</i>	0	1	1	0	0	0	0	0.74	0.010	2	0.0800	0.0182	2.862
<i>Festuca arundinacea</i>	0	2	11	6	1	0	0	17.72	0.250	20	0.8000	0.1818	43.175
<i>Fraxinus americana</i>	0	2	0	0	0	0	0	0.24	0.003	2	0.0800	0.0182	2.157
<i>Gnaphalium obtusifolia</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
<i>Medicago sativa</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
<i>Polygonum pensylvanicum</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
<i>Pycnanthemum tenuifolium</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
<i>Rubus allegheniensis</i>	0	2	0	0	0	0	0	0.24	0.003	2	0.0800	0.0182	2.157
<i>Rudbeckia hirta</i>	0	1	4	0	0	0	0	2.6	0.037	5	0.2000	0.0455	8.213
<i>Setaria viridis</i>	0	3	6	2	0	0	0	6.8	0.096	11	0.4400	0.1000	19.591
<i>Solidago canadensis</i>	0	1	12	8	2	0	0	23.44	0.331	23	0.9200	0.2091	53.970
<i>Solidago nemoralis</i>	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
<i>Vernonia missurica</i>	0	3	1	0	0	0	0	0.98	0.014	4	0.1600	0.0364	5.019
Soil (no vegetation)	0	7	14	0	0	0	0	9.52	0.134	21	0.8400	0.1909	32.518

70.9

110

200.000