ILLINOIS WILDLIFE PRESERVATION FUND
FINAL REPORT

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

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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.

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[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 illinoiensis*, *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.

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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*

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

CAPPARIDACEAE
Polanisia dodecandra (L.) DC., *T 14199*

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 × 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 pensylvanica 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., *TT13965*
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, T*12340*
Gratiola neglecta Torr., K*255*
Lindernia dubia (L.) Pennell var. *anagallidea* (Michx.) Cooperrider, T*12325*
Mimulus ringens L., K*391*
Penstemon digitalis Nutt., K*229*
Penstemon pallidus Small, K*236*
Scrophularia marilandica L., *obs.*
**Verbascum blattaria* L., *14127*
**Verbascum thapsus* L., *obs.*
Veronica arvensis L., *T13942*
Veronica peregrina L., *T13939*

SOLANACEAE

Solanum carolinense L. K*362*
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.) Dufr., *T13941*

VERBENACEAE

Phryma leptostachya L., *T14155*
Verbena bracteata Lag. & Rodr., *T13930*
Verbena hastata L. K*332*
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, T 13970*
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. K*275*
Carex shortiana Dewey, *T13996*
Carex sparganioides Muhl. ex Willd, *T14056*
Carex squarrosa L., T13638
Carex typhina Michx., *T14037*
Carex vulpinoidea Michx. K*285*
Cyperus acuminatus Torr. & Hook. K*430*
Cyperus erythrorhizos Muhl., *T14544*
Cyperus esculentus L. var. *leptostachyus* Boeck., K*312, T13858*
Cyperus echinatus (L.) A. Wood, K338
Cyperus odoratus L., T12322, T13865
Cyperus strigosus L. K*355*
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, K*215*
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, K*238, T13642*
Scirpus pendulus Muhl., *T13999*

DIOSCOREACEAE
Dioscorea villosa L., *T14523*

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

JUNCACEAE
Juncus sp., T14511
Juncus acuminatus Michx. K*250*
Juncus biflorus Ell. K*359*
Juncus brachycarpus Engelm. K*374*
Juncus interior Wieg. K*353*
Juncus torreyi Coville. K*323*
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 K*218*
Hemerocallis fulva L., obs.
**Ornithogalum umbellatum* L., *T13923*
Smilacina racemosa (L.) Desf., *T14014*
Trillium recurvatum Beck, *T13979*
Uvularia perfoliata L., *T14083*
**Yucca flaccida* Haw T*12377*

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. K*259*
Agrostis alba L. K*326*
Alopecurus carolinianus Walt. K*212*
**Alopecurus pratensis* L. K*201*
Andropogon gerardii Vitman E*473*
Andropogon virginicus L., *T14419*
Aristida sp., T14423
**Bothriochloa laguroides* (DC.) Herter, *T14484*
Brachyelytrum erectum (Roth) Beauv., *T14152*
Bromus sp., *T14018*
**Bromus commutatus* Schrad. K*266, 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. K*409*
**Eleusine indica* (L.) Gaertn., *T14533*
Elymus canadensis L., T*12329*
Elymus hystrix L., *T14076*
Elymus villosus Muhl., *T14070*
Elymus virginicus L. T*12351*
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*
Pancium 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

Summary of Transect Data: Importance Values for each species

Transect	1	2	3	4	5	6	7	8	9	10	11	12	
Scientific Name													Average
Acalypha gracilens												1.1	**0.09**
Acer rubrum							5.8	16.3					**1.84**
Achillea millefolium		4	5.5	1.6	1.3			15.2			1.2	1.1	**2.49**
Agalinis purpurea			4.1										**0.34**
Ambrosia artemisiifolia		1.6	14.5	82.3									**8.20**
Andropogon gerardii	43.3		31.8	3.9					55.9	44.6			**14.96**
Apocynum cannabinum								0.9					**0.08**
Aster lanceolatus					8.9								**0.74**
Aster novae-angliae					2.9								**0.24**
Aster pilosus							27.5	1.8		14.6		22.8	**5.56**
Bidens frondosa			0.9	0.8									**0.14**
Bidens tripartita			3.1										**0.26**
Bromus inermis		17	7.6	7.2				5.3				2.9	**3.33**
Campsis radicans		0.8					2						**0.23**
Carya glabra	7.2												**0.60**
Cassia fasciculata			2.4										**0.20**
Chamaecrista nictitans				3.6						1.4			**0.42**
Cirsium arvense							3.3						**0.28**
Dactylis glomerata				10.5									**0.88**
Desmanthus illinoiensis	1.4				2.5								**0.33**
Echinacea purpurea							2	1.6					**0.30**
Eryngium yuccifolium					1.3								**0.11**
Eupatorium serotinum								0.9					**0.08**
Euphorbia corollata				1.7									**0.14**
Euthamia graminifolia				1.6									**0.13**
Festuca arundinacea								11	24.5	1.4	33.1	43.2	**9.43**
Fraxinus americana	6.3							25.1		2.8		2.3	**3.04**
Gnaphalium obtusifolium												1.1	**0.09**
Lespedeza stricta		1.3											**0.11**
Medicago sativa								5.3					**0.44**
Melilotus alba				4.8									**0.40**

Monarda fistulosa					1.3								**0.11**
Morus alba								0.9					**0.08**
Oxalis stricta						1.6							**0.13**
Panicum virgatum			5					0.9	1.2				**0.59**
Parthenocissus quinquefolia		5.2											**0.43**
Phleum pratense			0.9		1.3		13.3			1.4			**1.41**
Poa pratensis									17.4		23		**3.37**
Polygonum pensylvanicum												1.2	**0.10**
Populus deltoides					2.6								**0.22**
Pycnanthemum pilosum		6				1.7	1.3				1.8		**0.90**
Pycnanthemum tenuifolium		19.9	8.6					4.4			2.4	1.2	**3.04**
Ratibida pinnata					1.5								**0.13**
Rubus allegheniensis	17.9	25.7	11.6	8.7		1.6	2.6		15.8		6.6	2.2	**7.73**
Rudbeckia hirta												8.2	**0.68**
Sassafras albidum		2.6											**0.22**
Schizachyrium scoparium					65.2		42	25.8	1.2	4.9			**11.59**
Setaria glauca								47.8					**3.98**
Setaria viridis												19.6	**1.63**
Silphium laciniatum		0.8											**0.07**
Silphium terebinthinaceum					1.5								**0.13**
Solidago canadensis	61.2	55.4	62.9	32.7	83.6	79.4	67.8	22.1	1.2	57.9	55.7	54	**52.83**
Solidago juncea			3			1.6					1.8		**0.53**
Solidago nemoralis												1.2	**0.10**
Sonchus asper							5						**0.42**
Sorghastrum nutans	55.3		12.3		4	83.3		4.4	57	53.2	53.5		**26.92**
Sporobolus heterolepis						4.8							**0.40**
Symphoricarpos albus		26.1					1.3						**2.28**
Taraxacum officinale								0.9					**0.08**
Toxicodendron radicans	1.4	11							1.2				**1.13**
Tridens flavus	1.4	1.6							2.4				**0.45**
Trifolium pratense				12									**1.00**
Vernonia missurica		17	1.5								1.8	5	**2.11**
Viola pratincola							13				1.2		**1.18**
Soil (no vegetation)	4.5	3.9	23.4	28.4	22.3	25.9	13.1	8.9	22.2	17.8	17.9	32.5	**18.40**
Sum	199.9	199.9	199.1	199.8	200.2	199.9	200	199.5	200	200	200	199.6	**199.80**

Transect 1

Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
Desmanthus illinoiensis	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.012821	1.437
Toxicodendron radicans	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.012821	1.437
Tridens flavus	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
Fraxinus americana	0	0	3	0	0	0	0	1.86	0.024	3	0.12	0.038462	6.249
Carya glabra	1	2	0	1	0	0	0	1.62	0.021	4	0.16	0.051282	7.221
Rubus allegheniensis	0	1	3	0	1	1	0	7.9	0.102	6	0.24	0.076923	17.896
Andropogon gerardii	0	1	13	3	0	1	0	15.68	0.203	18	0.72	0.230769	43.330
Sorghastrum nutans	0	0	8	6	2	2	0	24.96	0.322	18	0.72	0.230769	55.317
Solidago canadensis	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.
Achillea millefolium	2	3	0	0	0	0	0	0.4	0.004	5	0.2	0.03649635	4.031
Ambrosia artemisiifolia	0	2	0	0	0	0	0	0.24	0.002	2	0.08	0.01459854	1.689
Bromus inermis	0	2	7	3	0	0	0	8.66	0.083	12	0.48	0.087591241	17.015
Campsis radicans	0	1	0	0	0	0	0	0.12	0.001	1	0.04	0.00729927	0.844
Lespedeza stricta	0	0	1	0	0	0	0	0.62	0.006	1	0.04	0.00729927	1.321
Parthenocissus quinquefolia	0	3	2	0	0	0	0	1.6	0.015	5	0.2	0.03649635	5.175
Pycnanthemum pilosum	0	0	3	1	0	0	0	3.22	0.031	4	0.16	0.02919708	5.989
Pycnanthemum tenuifolium	4	6	9	0	0	0	0	6.38	0.061	19	0.76	0.138686131	19.951
Rubus allegheniensis	0	4	10	3	1	0	0	13.26	0.126	18	0.72	0.131386861	25.779
Sassafras albidum	0	0	2	0	0	0	0	1.24	0.012	2	0.08	0.01459854	2.642
Silphium laciniatum	0	1	0	0	0	0	0	0.12	0.001	1	0.04	0.00729927	0.844
Solidago canadensis	0	0	5	12	4	3	0	39.68	0.378	24	0.96	0.175182482	55.345
Symphoricarpos albus	1	4	12	3	0	0	0	12.02	0.115	20	0.8	0.145985401	26.057
Toxicodendron radicans	0	1	6	1	0	0	0	5.2	0.050	8	0.32	0.058394161	10.797
Tridens flavus	1	1	0	0	0	0	0	0.14	0.001	2	0.08	0.01459854	1.593
Vernonia missurica	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
								104.9		137			200.000

Transect 3

Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
Achillea millefolium	1	2	2	0	0	0	0	1.5	0.020	5	0.2	0.035461	5.500
Agalinis purpurea	0	3	1	0	0	0	0	0.98	0.013	4	0.16	0.028369	4.114
Phleum pratense	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007092	0.866
Ambrosia artemisiifolia	0	8	5	0	0	0	0	4.06	0.053	13	0.52	0.092199	14.509
Andropogon gerardii	1	4	10	5	0	0	0	13.5	0.176	20	0.8	0.141844	31.772
Bidens frondosa	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007092	0.866
Bidens tripartita	1	1	1	0	0	0	0	0.76	0.010	3	0.12	0.021277	3.118
Bromus inermis	0	0	5	0	0	0	0	3.1	0.040	5	0.2	0.035461	7.585
Cassia fasciculata	0	1	1	0	0	0	0	0.74	0.010	2	0.08	0.014184	2.382
Panicum virgatum	0	4	1	0	0	0	0	1.1	0.014	5	0.2	0.035461	4.979
Pycnanthemum pilosum	2	3	3	0	0	0	0	2.26	0.029	8	0.32	0.056738	8.618
Rubus allegheniensis	2	10	1	0	0	0	0	1.86	0.024	13	0.52	0.092199	11.643
Solidago canadensis	0	1	14	7	2	3	0	33.58	0.437	27	1.08	0.191489	62.896
Solidago juncea	0	0	2	0	0	0	0	1.24	0.016	2	0.08	0.014184	3.034
Sorghastrum nutans	0	2	7	0	0	0	0	4.58	0.060	9	0.36	0.06383	12.350
Symphoricarpos albus	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007092	0.866
Vernonia missurica	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.
Achillea millefolium	2	0	0	0	0	0	0	0.04	0.001	2	0.08	0.016	1.614
Ambrosia artemisiifolia	0	0	4	7	12	2	0	48.84	0.628	25	1	0.195	82.324
Andropogon gerardii	0	0	0	0	1	0	0	2.5	0.032	1	0.04	0.008	3.995
Bidens frondosa	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.008	0.807
Bromus inermis	0	6	1	0	0	0	0	1.34	0.017	7	0.28	0.055	7.192
Chamaecrista nictitans	1	3	0	0	0	0	0	0.38	0.005	4	0.16	0.031	3.614
Dactylis glomerata	1	7	2	0	0	0	0	2.1	0.027	10	0.4	0.078	10.512
Euphorbia corollata	1	1	0	0	0	0	0	0.14	0.002	2	0.08	0.016	1.742
Euthamia graminifolia	0	0	1	0	0	0	0	0.62	0.008	1	0.04	0.008	1.578
Melilotus alba	2	0	2	0	0	0	0	1.28	0.016	4	0.16	0.031	4.771
Rubus allegheniensis	3	5	1	0	0	0	0	1.28	0.016	9	0.36	0.070	8.677
Solidago canadensis	0	8	16	0	0	0	0	10.88	0.140	24	0.96	0.188	32.738
Trifolium pratense	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.
Achillea millefolium	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.01	1.321
Aster lanceolatus	0	0	2	1	0	0	0	2.6	0.051	3	0.12	0.04	8.899
Aster novae-angliae	0	0	1	0	0	0	0	0.62	0.012	1	0.04	0.01	2.487
Desmanthus illinoiensis	0	0	1	0	0	0	0	0.62	0.012	1	0.04	0.01	2.487
Eryngium yuccifolium	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.01	1.321
Monarda fistulosa	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.01	1.321
Phleum pratense	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.01	1.321
Populus deltoides	2	0	0	0	0	0	0	0.04	0.001	2	0.08	0.03	2.642
Ratibida pinnata	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.01	1.515
Schizachyrium scoparium	1	4	12	4	2	0	0	18.38	0.357	23	0.92	0.29	65.204
Silphium terebinthinaceum	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.01	1.515
Solidago canadensis	1	1	14	5	3	1	0	26.54	0.516	25	1	0.32	83.625
Sorghastrum nutans	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.
Oxalis stricta	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.016	1.590
Pycnanthemum pilosum	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.016	1.730
Rubus allegheniensis	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.016	1.590
Solidago canadensis	0	2	5	10	2	3	0	32.2	0.450	22	0.88	0.344	79.397
Solidago juncea	1	0	0	0	0	0	0	0.02	0.000	1	0.04	0.016	1.590
Sorghastrum nutans	0	1	5	8	7	1	0	35.02	0.490	22	0.88	0.344	83.340
Sporobolus heterolepis	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 7

Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
Acer rubrum	1	2	1	0	0	0	0	0.88	0.012	4	0.16	0.046	5.805
Aster pilosus	1	4	6	3	0	0	0	8.3	0.114	14	0.56	0.161	27.474
Campsis radicans	0	0	1	0	0	0	0	0.62	0.009	1	0.04	0.011	2.000
Cirsium arvense	0	1	1	0	0	0	0	0.74	0.010	2	0.08	0.023	3.314
Echinacea purpurea	0	0	1	0	0	0	0	0.62	0.009	1	0.04	0.011	2.000
Phleum pratense	0	1	6	0	0	0	0	3.84	0.053	7	0.28	0.080	13.312
Pycnanthemum pilosum	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.011	1.314
Rubus allegheniensis	0	2	0	0	0	0	0	0.24	0.003	2	0.08	0.023	2.628
Schizachyrium scoparium	0	1	9	6	1	0	0	16.36	0.224	17	0.68	0.195	41.976
Solidago canadensis	0	1	8	4	3	2	2	32.66	0.448	20	0.8	0.230	67.777
Sonchus asper	0	0	1	1	0	0	0	1.98	0.027	2	0.08	0.023	5.014
Symphoricarpos albus	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.011	1.314
Viola pratincola	0	0	5	1	0	0	0	4.46	0.061	6	0.24	0.069	13.013
Soil (no vegetation)	1	6	2	0	0	0	0	1.98	0.027	9	0.36	0.103	13.060
								72.92		87			200.000

Transect 8

Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
Acer rubrum	1	8	5	0	0	0	0	4.08	0.060	14	0.56	0.103	16.328
Achillea millefolium	0	4	7	0	0	0	0	4.82	0.071	11	0.44	0.081	15.216
Apocynum cannabinum	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007	0.913
Aster pilosus	0	2	0	0	0	0	0	0.24	0.004	2	0.08	0.015	1.826
Bromus inermis	0	1	0	0	1	0	0	2.62	0.039	2	0.08	0.015	5.345
Echinacea purpurea	0	0	1	0	0	0	0	0.62	0.009	1	0.04	0.007	1.652
Eupatorium serotinum	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007	0.913
Festuca arundinacea	0	3	5	0	0	0	0	3.46	0.051	8	0.32	0.059	10.999
Fraxinus americana	0	4	8	3	0	0	0	9.52	0.141	15	0.6	0.110	25.108
Medicago sativa	0	4	1	0	0	0	0	1.1	0.016	5	0.2	0.037	5.303
Morus alba	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007	0.913
Panicum virgatum	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.007	0.913
Pycnanthemum tenuifolium	0	3	1	0	0	0	0	0.98	0.014	4	0.16	0.029	4.390
Schizachyrium scoparium	0	6	8	1	1	0	0	9.54	0.141	16	0.64	0.118	25.873
Setaria glauca	0	0	13	8	1	0	0	21.44	0.317	22	0.88	0.162	47.883
Solidago canadensis	0	17	4	0	0	0	0	4.52	0.067	21	0.84	0.154	22.126
Sorghastrum nutans	0	0	0	0	1	0	0	2.5	0.037	1	0.04	0.007	4.432
Taraxacum officinale	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
								67.62		136			200.000

Transect 9

Name	CC1	CC2	CC3	CC4	CC5	CC6	CC7	Ave. Cover	Rel. Cover	#Quad	Freq.	Rel. Freq.	I.V.
Andropogon gerardii	0	1	10	13	0	0	0	24	0.314	24	0.96	0.245	55.862
Festuca arundinacea	0	0	8	2	1	0	0	10.18	0.133	11	0.44	0.112	24.532
Panicum virgatum	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.010	1.177
Tridens flavus	0	2	0	0	0	0	0	0.24	0.003	2	0.08	0.020	2.355
Poa pratensis	0	0	8	1	0	0	0	6.32	0.083	9	0.36	0.092	17.445
Rubus allegheniensis	0	1	8	0	0	0	0	5.08	0.066	9	0.36	0.092	15.824
Schizachyrium scoparium	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.010	1.177
Solidago canadensis	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.010	1.177
Sorghastrum nutans	0	0	12	11	1	0	0	24.9	0.325	24	0.96	0.245	57.039
Toxicodendron radicans	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.
Andropogon gerardii	0	1	2	6	2	2	0	21.36	0.283	13	0.52	0.1625	44.556
Aster pilosus	0	2	2	1	1	0	0	5.34	0.071	6	0.24	0.075	14.577
Chamaecrista nictitans	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.0125	1.409
Festuca arundinacea	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.0125	1.409
Fraxinus americana	0	2	0	0	0	0	0	0.24	0.003	2	0.08	0.025	2.818
Phleum pratense	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.0125	1.409
Schizachyrium scoparium	0	2	1	0	0	0	0	0.86	0.011	3	0.12	0.0375	4.890
Solidago canadensis	0	1	17	4	2	0	0	21.1	0.280	24	0.96	0.3	57.962
Sorghastrum nutans	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.
Achillea millefolium	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.010	1.184
Viola pratincola	0	1	0	0	0	0	0	0.12	0.002	1	0.04	0.010	1.184
Pycnanthemum pilosum	0	0	1	0	0	0	0	0.62	0.008	1	0.04	0.010	1.821
Solidago juncea	0	0	1	0	0	0	0	0.62	0.008	1	0.04	0.010	1.821
Vernonia missurica	0	0	1	0	0	0	0	0.62	0.008	1	0.04	0.010	1.821
Pycnanthemum tenuifolium	0	2	0	0	0	0	0	0.24	0.003	2	0.08	0.021	2.368
Rubus allegheniensis	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
Poa pratensis	0	1	12	0	0	0	0	7.56	0.096	13	0.52	0.134	23.033
Festuca arundinacea	0	1	10	3	0	1	0	13.82	0.176	15	0.6	0.155	33.069
Sorghastrum nutans	0	2	9	8	3	0	0	24.2	0.308	22	0.88	0.227	53.508
Solidago canadensis	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.
Acalypha gracilens	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
Achillea millefolium	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
Aster pilosus	0	5	5	3	0	0	0	7.78	0.110	13	0.5200	0.1182	22.791
Bromus inermis	0	1	1	0	0	0	0	0.74	0.010	2	0.0800	0.0182	2.862
Festuca arundinacea	0	2	11	6	1	0	0	17.72	0.250	20	0.8000	0.1818	43.175
Fraxinus americana	0	2	0	0	0	0	0	0.24	0.003	2	0.0800	0.0182	2.157
Gnaphalium obtusifolia	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
Medicago sativa	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
Polygonum pensylvanicum	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
Pycnanthemum tenuifolium	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
Rubus allegheniensis	0	2	0	0	0	0	0	0.24	0.003	2	0.0800	0.0182	2.157
Rudbeckia hirta	0	1	4	0	0	0	0	2.6	0.037	5	0.2000	0.0455	8.213
Setaria viridis	0	3	6	2	0	0	0	6.8	0.096	11	0.4400	0.1000	19.591
Solidago canadensis	0	1	12	8	2	0	0	23.44	0.331	23	0.9200	0.2091	53.970
Solidago nemoralis	0	1	0	0	0	0	0	0.12	0.002	1	0.0400	0.0091	1.078
Vernonia missurica	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