Final Report
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Illinois Wildlife Preservation Fund
Small Project Proposal FY 2003 (July 2002-June 2003)

Botanical Inventory of Coneflower Hill Prairie, Moultrie County, Illinois

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Introduction

Coneflower Hill Prairie is located in Moultrie County, on the northeast shore of Lake Shelbyville. It is located within the Grand Prairie Natural Division, on the Wisconsin Terminal Moraine. The property is owned by U.S. Army Corps of Engineers and leased as a natural area by the Illinois Dept. of Natural Resources. The site comprises 2.8 acres (1.2 hectares) with a south to southwest aspect. The site is well known to Illinois naturalists and much appreciated for the excellent displays of *Echinacea purpurea* each summer. There are no dedicated Illinois Nature Preserves in this area (Moultrie and Shelby counties). The site has received management attention from the Embarras Volunteer Stewards, a local group affiliated with the Illinois Chapter of the Nature Conservancy. Weedy woody plants species have been removed regularly for the past 12 years. The site steward is John Speer, a retired EIU Botany Professor. No state listed species have yet been reported from this site. Several conservative prairie indicator species, such as lead plant (*Amorpha canescens*) have been reported here.

Objectives

a. to document the vascular plant species diversity at Coneflower Hill Prairie by collecting representative specimens (vouchers) of all taxa of vascular plants found at the site. Specimens will be identified, labeled, and accessioned into the Stover-Ebinger Herbarium of Eastern Illinois University; a limited number of duplicates were provided to the Illinois Natural History Survey and the Illinois State Museum.

b. to determine and adequately survey the natural communities that exist at the site.

Methods:

Coneflower Hill Prairie was visited 8 times during the growing season, beginning in May 2002 and finishing in June 2003, for half-day trips. A vouchered list of all plant taxa was developed. Each species was provided with collector, collecting number, and date.

A vegetation sampling of the community will be carried out. Two 50- meter permanent transects were marked and located relative to fixed landmarks. Quantitative abundance of herbaceous and woody species was determined using standard methods (Bailey & Poulton, 1968). Floristic quality was calculated using the method of Taft et al. (1997).

Results

Results can be summarized as follows:

Total number of species:	134
Native species:	110
Non-native species:	24
Percent Native:	82%
Mean CC (native species only):	4.03
Floristic Quality Index (FQI):	38.25
FQI (native species only):	42.24

No endangered or threatened species were encountered. However, several conservative prairie forbs were found, specifically:
Echinacea pallida
Hedyotis purpurea
Phlox bifida
Seymeria macrophylla
Triosteum aurantiacum
Taenidia integerrima

All these contribute to the relatively high Floristic Quality Index, indicative of a site of regional significance.

Quantitative Data:
Two transects were made in August and September, 2002. The following summarizes those species having values greater than 10.

Importance Value (out of 200)	
Andropogon gerardii	46.8
Cassia fasciculata	14.55
Echinacea pallida	13.93
Euphorbia corollata	24.63
Helianthus divaricatus	13.39
Ratibida pinnata	11.49
Rosa carolina	11.93

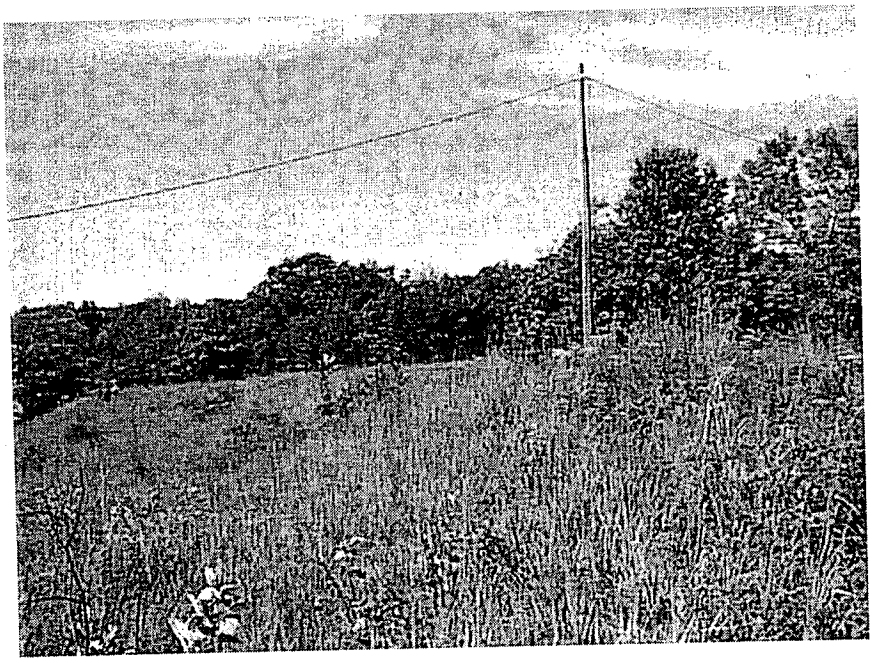
Epilogue: Field visits will be continued through the end of the 2003 field season, to locate any further species that might have been missed during the first season. A final manuscript will be submitted for publication in early 2004.

Literature cited

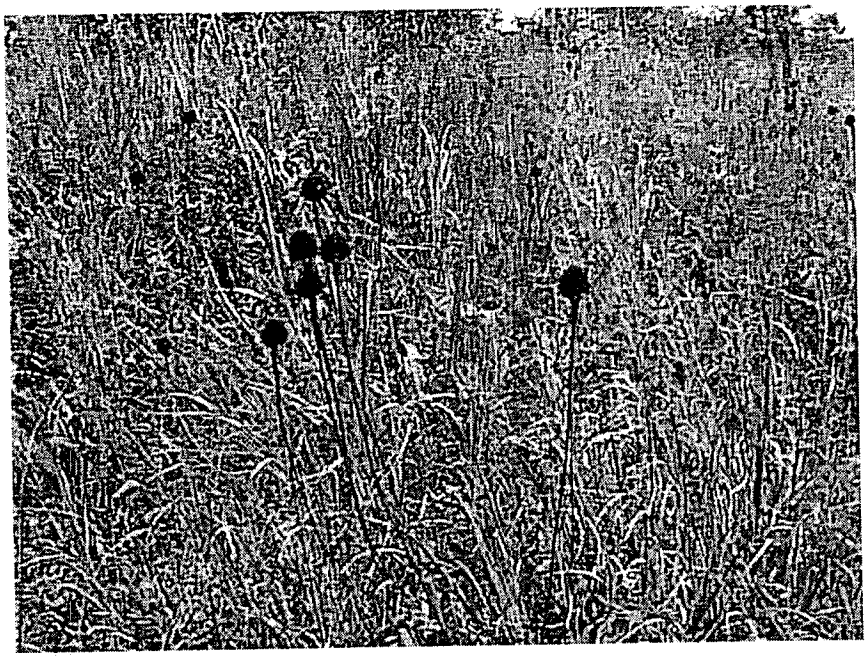
Bailey, A.W. and C.E. Poulton. 1968. Plant communities and environmental relationships in a portion of the Tillamook burn, Northwestern Oregon. Ecology 49:1-13.

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 15:1-95.

Digital photographs



Coneflower Hill Prairie, 25 Sep 2002



Echinacea pallida 25 Sep 2002

Coneflower hill Prairie, 25 Sep 2002

Oxalis violacea, 4 May 2003

Vascular Plant species list for Coneflower Hill Prairie

Table1				
Field Number	Genus	Species	Authority	Family
12725	Achillea	millefolium	L.	Asteraceae
13149	Agrimonia	pubescens	Wallr.	Rosaceae
12747	Allium	canadense	L.	Liliaceae
13100	Ambrosia	artemisifolia	L.	Asteraceae
13118	Ampelamus	albidus	(Nutt.) Britt.	Asclepiadaceae
13123	Andropogon	gerardii	Vitman	Poaceae
13116	Anemone	virginiana	L.	Ranunculaceae
13260	Antennaria	plantaginifolia	(L.) Hook.	Asteraceae
13152	Asclepias	purpurascens	L.	Asclepiadaceae
12727	Asparagus	officinalis	L.	Liliaceae
13217	Aster	pilosus	Willd.	Asteraceae
13204	Aster	turbinellus	Lindley in Hooker	Asteraceae
13203	Aster	X sagittifolius	Wedem.	Asteraceae
13264	Barbarea	vulgaris	L.	Brassicaceae
13147	Botrychium	virginianum	(L.) Sw.	Ophioglossaceae
13137	Bromus	inermis	(L.) Leyss.	Poaceae
13098	Bromus	pubescens	Muhl.	Poaceae
13099	Cacalia	muhlenbergii	(Sch.-Bip.) Fernald	Asteraceae
13297	Camassia	scilloides	(Raf.) Cory	Liliaceae
12729	Camassia	scilloides	(Raf.) Cory	Liliaceae
13117	Campsis	radicans	(L.) Seem. ex Bureau	Bignoniaceae
13269	Capsella	bursa-pastoris	L.	Brassicaceae
13295	Carex	cephalophora	Muhl.	Cyperaceae
12712	Carex	cephalophora		Cyperaceae
13296	Carex	meadii	Dewey	Cyperaceae
13300	Carex	blanda	Dewey	Cyperaceae
13294	Carex	blanda	Dewey	Cyperaceae
13219	Carya	tomentosa	(Poir. ex Lam.) Nutt.	Juglandaceae
13220	Carya	ovata	(Mill.) Koch	Juglandaceae
13210	Cassia	marilandica	L.	Caesalpiniaceae
13135	Cassia	fasciculata	Michx.	Fabaceae
13126	Celastrus	scandens	L.	Celastraceae
12717	Cerastium	semidecandrum	L.	Caryophyllaceae
13263	Cercis	canadensis	L.	Caesalpiniaceae
13132	Cirsium	discolor	(Muhl.) Spreng.	Asteraceae
13265	Claytonia	virginica	L.	Portulacaceae
13213	Clematis	pitcheri	Torrey & A. Gray	Ranunculaceae

Table1				
Field Number	Genus	Species	Authority	Family
12731	Comandra	umbellata	(L.) Nutt.	Santalaceae
12721	Convolvulus	spithamaeus	L.	Convolvulaceae
13104	Convolvulus	arvensis	L.	Convolvulaceae
13214	Corylus	americana	Walt.	Betulaceae
12746	Dactylis	glomerata	L.	Poaceae
13113	Dalea	purpurea	Vent.	Fabaceae
13138	Daucus	carota	L.	Apiaceae
13139	Dianthus	armeria	L.	Caryophyllaceae
13128	Dioscorea	villosa	L.	Dioscoreaceae
13131	Echinacea	pallida	(Nutt.) Nutt.	Asteraceae
13262	Elaeagnus	umbellata	L.	Elaeagnaceae
13101	Elymus	virginicus	L.	Poaceae
13122	Elymus	virginicus	L.	Poaceae
13114	Elymus	hystrix	L.	Poaceae
13141	Elymus	X ebingeri	G. Tucker	Poaceae
13206	Eragrostis	spectabilis	(Pursh) Steudel	Poaceae
13124	Eragrostis	pilosa	(L.) Beauv.	Poaceae
12738	Erigeron	annuus	(L.) Pers.	Asteraceae
13115	Eupatorium	coelestinum	L.	Asteraceae
13133	Euphorbia	corollata	L.	Euphorbiaceae
12736	Festuca	arundinacea	Schreb	Poaceae
13148	Galium	circaezans	Michx.	Rubiaceae
13156	Galium	triflorum	Michx.	Rubiaceae
12743	Geranium	carolinianum	L.	Geraniaceae
13293	Hedyotis	purpurea	(L.) Torrey & A. Gray	Rubiaceae
13211	Helianthus	divaricatus	L.	Asteraceae
13261	Holosteum	umbellatum	L.	Caryophyllaceae
12718	Hordeum	pusillum	Nutt.	Poaceae
13112	Hypericum	sphaerocarpum	Michx.	Hypericaceae
13109	Juncus	interior		Juncaceae
12745	Juniperus	virginiana	L.	Cupressaceae
13119	Lactuca	serriola	L.	Asteraceae
13304	Lepidium	virginicum	L.	Brassicaceae
13205	Lespedeza	striata	(Thunb.) Hook. & Arn.	Fabaceae
12748	Lithospermum	canescens	(Michx.) Lehm.	Boraginaceae
13209	Maclura	pomifera	(Raf.) Schneider	Moraceae
12724	Medicago	lupulina	L.	Fabaceae
12737	Melilotus	officinalis	(L.) Pallas	Fabaceae
13103	Monarda	fistulosa	L.	Lamiaceae
12740	Monarda	bradburiana	Beck	Lamiaceae

Table1				
Field Number	Genus	Species	Authority	Family
13306	Oxalis	fontana	Bunge	Oxalidaceae
12732	Oxalis	violacea	L.	Oxalidaceae
13303	Oxalis	violacea	L.	Oxalidaceae
12722	Oxalis	stricta	L.	Oxalidaceae
13155	Passiflora	lutea	L.	Passifloraceae
13144	Phleum	pratense	L.	Poaceae
13267	Phlox	bifida	Beck	Polemoniaceae
12728	Physalis	subglabrata	Mackz. & Bush	Solanaceae
13202	Physostegia	virginiana	(L.) Benth.	Lamiaceae
13305	Plantago	virginica	L.	Plantaginaceae
13121	Plantago	rugelii	Dcne.	Plantaginaceae
13143	Poa	compressa	L.	Poaceae
12749	Poa	pratensis	L.	Poaceae
13266	Podophyllum	peltatum	L.	Berberidaceae
13298	Potentilla	simplex	Michx.	Rosaceae
13216	Psoralea	onobrychis	Nutt.	Fabaceae
12744	Ptelea	trifoliata	L.	Rutaceae
13142	Pycnanthemum	virginianum	(L.) Dur. & Jacks.	Lamiaceae
13145	Ratibida	pinnata	(Vent.) Barnh.	Asteraceae
13120	Rhus	glabra	L.	Anacardiaceae
13207	Rosa	carolina		Rosaceae
12705	Rubus	pensylvanicus		Rosaceae
13301	Rubus	occidentalis	L.	Rosaceae
13153	Rudbeckia	triloba	L.	Asteraceae
13154	Rudbeckia	hirta	L.	Asteraceae
13136	Ruellia	humilis	Nutt.	Acanthaceae
13134	Sanicula	canadensis	L.	Apiaceae
13208	Schizachyrium	scoparium	(Michx.) Nash.	Poaceae
obs.	Scirpus	pendulus	muhl.	Cyperaceae
13302	Scutellaria	leonardii	Epling	Lamiaceae
13102	Seymeria	macrophylla	Nutt.	Scrophulariaceae
13108	Silene	stellata	Ait.	Caryophyllaceae
13307	Sisyrhinchium	campestre	Bickn.	Iridaceae
13299	Sisyrhinchium	albidum	Bickn.	Iridaceae
12730	Sisyrhinchium	campestre	Bickn.	Iridaceae
12742	Smilax	hispida	Muhl.	Smilacaceae
13212	Solidago	canadensis	L.	Asteraceae
13201	Solidago	ulmifolia	Muhl. ex Willd.	Asteracae
13215	Solidago	nemoralis	Aiton	Asteraceae
13106	Symphoricarpos	orbiculatus	Moench	Caprifoliaceae

Table1				
Field Number	Genus	Species	Authority	Family
12734	Taenidia	integerrima	(L.) Drude	Apiaceae
13268	Taraxacum	officinale	Weber ex Wiggers	Asteraceae
13151	Teucrium	canadense	L.	Lamiaceae
13125	Thalictrum	revolutum	DC.	Ranunculaceae
12735	Torilis	japonica	(Houtt.) DC.	Apiaceae
13218	Tridens	flavus	(L.) Hitchc.	Poaceae
12720	Trifolium	pratense	L.	Fabaceae
13221A	Trillium	recurvatum		Trilliaceae
13146	Triosteum	aurantiacum	Bickn.	Caprifoliaceae
12741	Triosteum	aurantiacum	Bickn.	Caprifoliaceae
12739	Ulmus	rubra	Muhl.	Ulmaceae
13150	Verbena	urticifolia	L.	Verbenaceae
13130	Verbesina	helianthoides	Michx.	Asteraceae
13129	Vernonia	gigantea	(Walt.) Trel.	Asteraceae
13271	Viola	pratincola	Greene	Violaceae
13270	Viola	pratincola	Greene	Violaceae
13110	Vitis	aestivalis	Michx.	Vitaceae
13107	Vitis	vulpina	L.	Vitaceae
12726	Vitis	vulpina	L.	Vitaceae
13127	Zanthoxylum	americanum	Miller	Rutaceae