Flora and Fauna Inventory and Geological Assessment of the Lenore McDonald Farm Property

2 Copies

Prepared for the Conservation Foundation by

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General site description

McDonald farm is a former farm site approximately 60 acres in size and somewhat rectangular in shape (Figure 1). A moderate to low density of residences borders the site on all sides. A detention basin system lies along the western boundary. The basin system drains into a storm sewer system and does not drain water from the McDonald Farm. A detention basin also lies along the northern perimeter of the farm. Water from this system surfaces on the McDonald property in the southern corner of the property and flows to the south and into the stream flowing through the willow thicket of the commons. An open space "commons" lies along the southern boundary.

The homes to the south were built within a savanna and are the closest woodland to the McDonald Farm.

Ecosystem/habitat descriptions are given in the next section.

Flora Inventories

Methods

Floral inventories were conducted at the Lenore McDonald farm on three different occasions (4 October 1998, 9 May 1999, and 24 June 1999) to ensure that species with different phenologies would be observed. Inventories were conducted by traversing the entire McDonald Farm and recording all plant species encountered. The site was walked for three to four hours during each floral inventory. Effort was concentrated along fencerows, wooded hedgerows, and the swales and ephemeral ponds where native plant species were likely to be encountered.

Results

A complete list of all the plant species observed at the McDonald Farm is located in Table 1. A total of 237 plant species were seen, of which 125 (53%) were native species and 112 (47%) were adventive species. Adventive species are those that have been introduced, either intentionally or accidentally, in the Chicago Region since the time of European settlement. The plants are listed in alphabetical order by genus and species. Nomenclature for all plant species follows Swink and Wilhelm's *Plants of the Chicago Region* (1994). An explanation of all of the terms on the flora list is located in Appendix 1.

The majority of the flora on the McDonald Farm (82%) was either adventive species (47%) or non-conservative native species (35%). Only 18% of the total flora (35% of the native species) were conservative species (species having a coefficient of conservatism of 4 or greater). The mean coefficient of conservatism (native mean C) had a value of 2.57 and the Floristic Quality

Index (native FQI) was 28.71 for the entire site. These numbers are indicative of a site that has been highly disturbed over the years and contains very little native conservative flora. From a natural area perspective, current conditions suggest the site has low significance, but with proper management and augmentation of existing flora, the site has good restoration potential.

Current Plant Communities

The McDonald Farm contained several plant communities/habitat types that are described below. A map of the location of these communities/types is located in Figure 1.

The majority of the McDonald Farm is in active agriculture that primarily contained row crops (corn and soybeans), with a small hayfield (alfalfa) and their associated weed flora (velvetleaf, pigweeds, ragweeds, horseweed, foxtails, etc.). A specimen of prickly smartweed (*Polygonum bungeanum*) was collected in the cropfields and deposited at the Morton Arboretum's herbarium. This species was new to Will County.

The areas around the houses and barns contained several habitats. Mowed and unmowed areas of turf and pasture grasses (Kentucky bluegrass, meadow fescue, orchard grass, smooth brome) and their associated weeds (common dandelion, creeping Charlie, corn speedwell). Garden areas contained cultivated vegetable crops (tomatoes, rhubarb), ornamental flowers (tulips, peonies, jonquils, hollyhocks, hostas), trees (apples, Norway maple, magnolias) and shrubs (European smoke tree, downy mock orange, common privet). Areas of planted woody vegetation, apparently used as windbreaks, were also planted around the house and barns. These included species such as Siberian elm, white pine, and black walnut. A small area of conifers was located east of the residence. This contained Scotch pine and species of spruce (*Picea spp.*) and fir (*Abies spp.*). The area in front of the office building was recently planted to native prairie and wetland vegetation. These species were not included on the inventory list.

The property borders contained wooded hedgerows, composed mainly of boxelder and black cherry, along a portion of the northern boundary. This wooded hedgerow contained several common woodland plants, such as white avens and clustered black snakeroot, and a large stand of sandbar willow that extended out into the field. The remaining portion of the northern boundary contained a shrubby and herbaceous fencerow. The western boundary contained a single row of planted shrubs. These shrubs were not included in the inventory due to the fact that they appeared to be off the property based on the fact that the herbaceous flora around them was mowed. The southern fencerow was primarily herbaceous (mostly smooth brome and other weeds) with a few scattered shrubs. The eastern boundary along Knoch Knolls Road contained mostly herbaceous species, including switchgrass, and several bur oaks. A number of planted trees (green ash, black walnut, and sugar maple) were noted along the eastern boundary and the driveway.

The swales and ephemeral ponds contained the greatest concentration of native and conservative flora. The northernmost pond was usually dry and contained mostly reed canary grass. The middle pond and, in particular, the southernmost pond, contained most of the Obligate Wetland and Facultative Wetland species noted during the survey. This was also where the majority of the conservative plant species were observed. Species such as bulrushes, rice cut grass, common water plantain, small duckweed, common arrowhead, swamp milkweed, spike rushes, sneezeweed, and wild mint were encountered here. This wetland vegetation was also evident on the commons property to the south and could possibly be jointly managed with the Naperville Park District in the future.

Fauna Inventories

Methods

Daytime inventories of the wildlife present on the McDonald Farm were made during September 1998 and on February 15, May 30, and June 12, 1999. The site was walked for two to three hours during each daytime visit. The routes walked were located to maximize the likelihood of encounters with wildlife within habitats.

The wetlands were dip-netted for 30 minutes on May 30, 1999 in order to search for amphibian larvae and aquatic invertebrates. Well covers were removed to look for *Ambystoma* salamanders. The several buildings were searched for signs of bats. The farm was visited between 21:00 and 22:50 on June 19, 1999 to listen for calling frogs. Additional frog calling surveys were not conducted based on the apparent absence of most amphibians (i.e. neither adults nor larvae found during daytime surveys).

The wildlife observed during the floral surveys conducted on October 4, 1998 and May 9 and June 14, 1999 were also noted. The Conservation Foundation staff provided a list of wildlife species they had observed on the farm site. All species occurrence information is summarized in Table 2.

Results

A total of 62 vertebrate animal species/wildlife were observed during the surveys or reported by Conservation Foundation staff (Table 2). A total of nine taxa of aquatic invertebrates, two amphibians, one reptile, 43 birds, and 17 mammals are believed to occur or breed on the McDonald Farm. Currently, many of these species may only occur occasionally or on a seasonal basis due to the limited habitat available on the site. Breeding activity was confirmed for two amphibians and 21 birds. A minimum of six bird species was considered visitors during migration or winter residents (Table 3).

Invertebrates. The invertebrates observed in dip-net samples included amphipods (*Gammarus*), spiders, insects (dragonfly and damselfly larvae, water striders, back swimmers, water boatmen, and predaceous diving beetle larvae), and snails.

Comments on vertebrate animal groups

Fish. It was encouraging not to find fish, especially common carp (*Cyprinus carpio*) or sunfish (*Lepomis*) on the site. These fish species are not desirable within small wetlands since they reduce water quality and prey on invertebrates and amphibian larvae. Any alterations of the water drainage of the site should include preventative measures to prevent colonization by these fish species.

Amphibians. Calling American toads and chorus frogs were heard and tadpoles of both species were found. Modification of the site's drainage should increase the size of the site's wetlands and the time they hold water. It was encouraging not to find bullfrogs (*Rana catesbeiana*) since this species can colonize sites with permanent water and preys upon smaller frog species.

If wetlands and adjacent mesic/wet prairie are created, the introduction of tiger salamanders (*Ambystoma tigrinum*) and leopard frogs (*Rana pipiens*) might be considered.

Reptiles. Conservation staff reported the presence of eastern garter snakes. However, snakes were not seen during the survey period. The western fox snake (*Elaphe vulpina*) is possible especially around the farm buildings. An introduction of this snake might be considered as habitat is created.

Birds. The regurgitated food pellets of long-eared owls, a winter resident, were found beneath the conifers near the office building.

Currently the fields in crops are of very limited use to most bird species. The pasture grasses, wetland, and shrubs around the farm's perimeter and surrounding the wetland and buildings provide the best bird habitat. The creation of grassland/prairie habitat over most of the site and the expansion of wetland habitat should be considered. Resident birds are primarily in the habitats to the west and south of the farm increase the number of bird species using the farm.

Mammats. The habitats nearby the farm site serve as sources of the mammals using the farm site. This is especially true for the smaller mammals, such as short-tailed shrews and meadow voles. Species such as the fox and gray squirrels may respond to the seasonal availability of

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food provided by agricultural crops. Larger mammals use the farm site as part of their comparatively larger home ranges.

Species such as thirteen-lined ground squirrels might colonize the site or be introduced as the site is converted to prairie/grassland.

The barns may provide habitat/roosts for bats, especially little brown *Myotis* and big brown bat (*Eptesicus fuscus*).

Topography, soils, and geology

Topography. The land grades down from the northwest to southeast, with the lowest elevations being found in the pond and swale areas. The elevation grades up on the northeastern corner. Figure 2 illustrates the topography on the site.

Soils. The soils on site are mainly well-drained soils (Saybrook silt loam and Warsaw-Lorenzo complex), with some poorly drained soils interspersed (Drummer silty clay loam) according to the Will County Soil maps (1988). These soils likely developed under prairie or wet prairie vegetation. However, due to the topography of the site and the agriculture that occurred on the site, the topsoil has eroded. Figure 3 illustrates the soils on the site.

Geology. The site lies primarily on Cahokia and Henry Formations, which are waterlain river sediments and wind-blown beach sand deposited during the Wisconsin glaciation (Figure 4).

Recommendations for ecosystems/habitats

1) The two southern-most swales did not hold water into June. Water remained in the northern swale. Disruption of the farm tiles draining the site would allow the site, especially the southern section, to become wetter. It might be possible to reconfigure the areas bordering the swales and plant them to wetland plants. The adjacent areas should be planted to dry and mesic prairie. Planting prairie plants north and south of the swales would create habitat, especially for amphibians. Grading the eastern and western slopes of the swales in a few locations and removing the existing berms between swales would increase the size of the wetland.

2) Plant the fields to short stature warm season grasses (little bluestem, side oats gramma, switch grass) and scattered forbs. These plant are better on the soil/land than row crops. The planting of native grasses and forbs might provide a commercial opportunity, the sale of prairie seed (production) for ecosystem restoration. Property may be large enough to attract one or

more breeding pairs of a number of grassland birds (eastern meadowlark, savannah sparrow, and bobolink) if converted to grasslands. Grassland areas of 75 acres or less are considered of minimal use to grassland birds (Mossman and Sample 1999). Hay the entire area after July 31, 1999.

If row crops must be planted keep crop production away from the wetland.

3) Remove the small amounts of buckthorn present.

4) Control reed canary grass with chemicals and replace them with native wetland plant species.

5) Educate the surrounding homeowners to control the farm's boundaries. A number of neighboring homeowners are encroaching on the property, mowing perimeter property, and dumping yard waste. These activities destroy wildlife and plant habitat and travel lanes for wildlife.

6) Work with the Naperville Park District to manage the wetlands (on- and off-site) as a complex.

References

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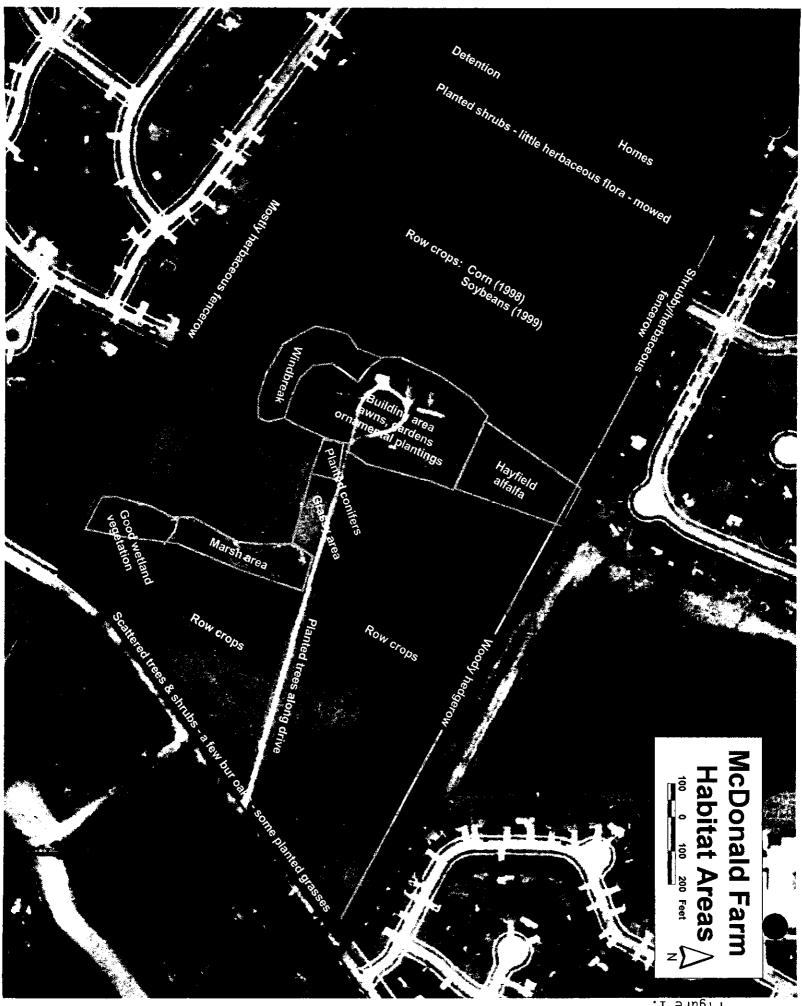


Table 1.	McDonald	Farm total	flora list

DATE 1998-1999

BY:	Scott Kobal			CONSERVA	TISM	34.40%			
FILE:	MCDSUMN	I.WB2							
	FLORISTIC	QUALITY DATA	N	ATIVE	52.7%	ADVE	ENTIVE	47.3%	
	125	NATIVE SPECIES	19	Tree	8.0%	8	Tree	3.4%	
	237	Total Species	9	Shrub	3.8%	11	Shrub	4.6%	
	2.57	NATIVE MEAN C	4	W-Vine	1.7%	4	W-Vine	1.7%	
	1.35	W/Adventives	2	H-Vine	0.8%	0	H-Vine	0.0%	
	28.71	NATIVE FQI	44	P-Forb	18.6%	34	P-Forb	14.3%	
	20.85	W/Adventives	5	B-Forb	2.1%	11	B-Forb	4.6%	
	0.1	NATIVE MEAN W	22	A-Forb	9.3%	28	A-Forb	11.8%	
	1.4	W/Adventives	6	P-Grass	2.5%	10	P-Grass	4.2%	
	AVG:	FACULTATIVE	3	A-Grass	1.3%	6	A-Grass	2.5%	
			10	P-Sedge	4.2%	0	P-Sedge	0.0%	
			0	A-Sedge	0.0%	0	A-Sedge	0.0%	
			1	Cryptogam	0.4%				
ACRONYM		SCIENTIFIC NAME				W	WETNES	s Physiog.	COMMON NAME
ABUTHE		Abutilon theophrasti				4	FACU-	Ad A-FORB	VELVETLEAF
ACARHO		Acalypha rhomboidea					FACU	Nt A-FORB	THREE-SEEDED MERCURY
ACENEG	0	Acer negundo				-2	FACW-	Nt TREE	BOX ELDER
ACEPLA		Acer platanoides					UPL	Ad TREE	NORWAY MAPLE
ACESAI		Acer saccharinum					FACW	Nt TREE	SILVER MAPLE
ESAU		Acer saccharum				3	FACU	Nt TREE	SUGAR MAPLE
MIL	•	Achillea millefolium					FACU	Ad P-FORB	YARROW
ACNALT		Acnida altissima					OBL	Nt A-FORB	WATER HEMP
AESGLA		Aesculus glabra				3	[FACU]	Nt TREE	OHIO BUCKEYE
AGRGRY	2	Agrimonia gryposepala				2	FACU+	Nt P-FORB	TALL AGRIMONY
AGRREP	•	Agropyron repens				3	FACU	Ad P-GRASS	QUACK GRASS
AGRALA		Agrostis alba				-3	FACW	Ad P-GRASS	REDTOP
AJUREP	•	Ajuga reptans				5	UPL	Ad P-FORB	CARPET BUGLE
ALISUB	4	Alisma subcordatum				-5	OBL	Nt P-FORB	COMMON WATER PLANTAIN

-	·····				
•	Acer platanoides	5	UPL	Ad TREE	NORWAY MAPLE
0	Acer saccharinum	-3	FACW	Nt TREE	SILVER MAPLE
3	Acer saccharum	3	FACU	Nt TREE	SUGAR MAPLE
•	Achillea millefolium	3	FACU	Ad P-FORB	YARROW
0	Acnida altissima	-5	OBL	Nt A-FORB	WATER HEMP
3	Aesculus glabra	3	[FACU]	Nt TREE	OHIO BUCKEYE
2	Agrimonia gryposepala	2	FACU+	Nt P-FORB	TALL AGRIMONY
•	Agropyron repens	3	FACU	Ad P-GRASS	QUACK GRASS
*	Agrostis alba	-3	FACW	Ad P-GRASS	REDTOP
•	Ajuga reptans	5	UPL	Ad P-FORB	CARPET BUGLE
4	Alisma subcordatum	-5	OBL	Nt P-FORB	COMMON WATER PLANTAIN
٠	Alliaria petiolata	0	FAC	Ad B-FORB	GARLIC MUSTARD
7	Allium cernuum	1	[FAC-]	Nt P-FORB	NODDING WILD ONION
•	Althaea rosea	5	UPL	Ad P-FORB	HOLLYHOCK
*	Amaranthus albus	3	FACU	Ad A-FORB	TUMBLEWEED
•	Amaranthus powellii	5	UPL	Ad A-FORB	TALL AMARANTH
٠	Amaranthus retroflexus	2	FACU+	Ad A-FORB	ROUGHAMARANTH
0	Ambrosia artemisiifolia elatior	3	FACU	Nt A-FORB	COMMON RAGWEED
0	Ambrosia trifida	-1	FAC+	Nt A-FORB	GIANT RAGWEED
5	Andropogon gerardii	1	FAC-	Nt P-GRASS	BIG BLUESTEM GRASS
5	Andropogon scoparius	4	FACU-	Nt P-GRASS	LITTLE BLUESTEM GRASS
2	Apocynum sibiricum	-1	FAC+	Nt P-FORB	PRAIRIE INDIAN HEMP
•	Arctium minus	5	UPL	Ad B-FORB	COMMON BURDOCK
4	Arisaema triphyllum	-2	FACW-	Nt P-FORB	JACK-IN-THE-PULPIT
4	Asclepias incamata	-5	OBL	Nt P-FORB	SWAMP MILKWEED
0	Asclepias syriaca	5	UPL	Nt P-FORB	COMMON MILKWEED
•	Asparagus officinalis	3	FACU	Ad P-FORB	ASPARAGUS
4	Aster laterifiorus	-2	FACW-	Nt P-FORB	SIDE-FLOWERING ASTER
0	Aster pilosus	2	FACU+	Nt P-FORB	HAIRY ASTER

ALLPET

ALLCER

ALTROS

AMAALB AMAPOW

AMARET AMBARE

AMBTRI

ANDGER

ANDSCO

APOSIB

ARCMIN

ARITRI

ASPOFF

ASTLAT

ASTPIL

CINC

SYR

ASTSAD	2 Aster sagittifolius drummondii	3 [FACU]	Nt P-FORB	DRUMMOND'S ASTER
ASTSIS	3 Aster singlex	-5 OBL	Nt P-FORB	PANICLED ASTER
ATRPAT	Atriplex patula	-2 FACW-	Ad A-FORB	COMMON ORACH
AVESAT	 Avena sativa 	5 UPL	Ad A-GRASS	OATS
BARVUL	Barbarea vulgaris	0 FAC	Ad B-FORB	YELLOW ROCKET
BIDVUL	1 Bidens vulgata	3 FACU	Nt A-FORB	TALL BEGGAR'S TICKS
BRANIG	Brassica nigra	5 UPL	Ad A-FORB	BLACK MUSTARD
BROINE	• Bromus inermis	5 UPL	Ad P-GRASS	HUNGARIAN BROME
BROTEC	Bromus tectorum	5 UPL	Ad A-GRASS	DOWNYBROME
CAMRAD	 Campsis radicans 	0 FAC	Ad W-VINE	TRUMPET CREEPER
CAPBUR	Capsella bursa-pastoris	1 FAC-	Ad A-FORB	SHEPHERD'S PURSE
CXBLAN	1 Carex blanda	0 FAC	Nt P-SEDGE	COMMON WOOD SEDGE
CXGRAN	4 Carex granularis	-4 FACW+		PALE SEDGE
CXGRIS	2 Carex grisea	1 [FAC-]	Nt P-SEDGE	WOOD GRAY SEDGE
CXHYST	5 Carex hystericina	-5 OBL	Nt P-SEDGE	PORCUPINE SEDGE
CXVULP	2 Carex vulpinoidea	-5 OBL	Nt P-SEDGE	BROWN FOX SEDGE
CELORB	Celastrus orbiculatus	5 UPL	Ad W-VINE	ORIENTAL BITTERSWEET
CELOCC	3 Cettis occidentalis	1 FAC-	Nt TREE	HACKBERRY
CERVUL	Cerastium vulgatum	3 FACU	Ad P-FORB	MOUSE-EAR CHICKWEED
CHEALB	Chenopodium album	1 FAC-	Ad A-FORB	LAMB'S QUARTERS
CIRLUC	1 Circaea lutetiana canadensis	3 FACU	Nt P-FORB	ENCHANTER'S NIGHTSHADE
CIRARV	Cirsium arvense	5 UPL	Ad P-FORB	FIELD THISTLE
CIRVUL	Cirsium vulgare	4 FACU-	Ad B-FORB	BULL THISTLE
сомсом	Commelina communis	0 FAC	Ad A-FORB	COMMON DAY FLOWER
CONMAJ	Convallaria majalis	5 UPL	Ad P-FORB	LILY-OF-THE-VALLEY
CONARV	 Convolvulus arvensis 	5 UPL	Ad P-FORB	
CONSEP	1 Convolvulus sepium	0 FAC	Nt P-FORB	
CORRAC	1 Cornus racemosa	-2 FACW-	Nt SHRUB	GRAY DOGWOOD
CORSTO	6 Comus stolonifera	-3 FACW	Nt SHRUB	RED-OSIER DOGWOOD
COTCOG	 Cotinus coggygria 	5 UPL	Ad SHRUB	EUROPEAN SMOKE TREE
CRAMOL	2 Crataegus mollis	4 FACU-	Nt TREE	DOWNY HAWTHORN
CYPESC	0 Cyperus esculentus	-1 [FAC+]	Nt P-SEDGE	FIELD NUT SEDGE
DACGLO	Dactylis glomerata	3 FACU	Ad P-GRASS	ORCHARD GRASS
DATSTR	Datura stramonium	5 UPL	Ad A-FORB	JIMSON WEED
DAUCAR	 Daucus carota 	6 1101		
DESPIB		5 UPL	Ad B-FORB	QUEEN ANNE'S LACE
DIGSAS	 Descurainia pinnata brachycarpa 	5 UPL	Ad B-FORB Ad A-FORB	QUEEN ANNE'S LACE TANSY MUSTARD
DIGGAG	 Descurainia pinnata brachycarpa Digitaria sanguinalis 			
ECHPUR		5 UPL	Ad A-FORB	TANSY MUSTARD
	• Digitaria sanguinalis	5 UPL 3 FACU	Ad A-FORB Ad A-GRASS Nt P-FORB	TANSY MUSTARD HAIRY CRAB GRASS
ECHPUR	 Digitaria sanguinalis 3 Echinacea purpurea 	5 UPL 3 FACU 5 UPL	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO
ECHPUR ECHCRU	 Digitaria sanguinalis 3 Echinacea purpurea 0 Echinochloa crusgalli 	5 UPL 3 FACU 5 UPL -3 FACW	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS Nt P-SEDGE	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO BARNYARD GRASS
ECHPUR ECHCRU ELEERY	 Digitaria sanguinalis 3 Echinacea purpurea 0 Echinochloa crusgalli 2 Eleocharis erythropoda 	5 UPL 3 FACU 5 UPL -3 FACW -5 OBL	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS Nt P-SEDGE	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO BARNYARD GRASS RED-ROOTED SPIKE RUSH
ECHPUR ECHCRU ELEERY ELESMA	 Digitaria sanguinalis 3 Echinacea purpurea 0 Echinochloa crusgalli 2 Eleocharis erythropoda 5 Eleocharis smallii 	5 UPL 3 FACU 5 UPL -3 FACW -5 OBL -5 OBL	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS Nt P-SEDGE Nt P-SEDGE	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO BARNYARD GRASS RED-ROOTED SPIKE RUSH MARSH SPIKE RUSH
ECHPUR ECHCRU ELEERY ELESMA ELLNYC	 Digitaria sanguinalis 3 Echinacea purpurea 0 Echinochloa crusgalli 2 Eleocharis erythropoda 5 Eleocharis smallil 2 Ellisia nyctelea 	5 UPL 3 FACU 5 UPL -3 FACW -5 OBL -5 OBL -1 FAC+	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS Nt P-SEDGE Nt P-SEDGE Nt A-FORB Nt P-FORB	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO BARNYARD GRASS RED-ROOTED SPIKE RUSH MARSH SPIKE RUSH AUNT LUCY
ECHPUR ECHCRU ELEERY ELESMA ELLNYC EPICOL	 Digitaria sanguinalis 3 Echinacea purpurea 0 Echinochloa crusgalli 2 Eleocharis erythropoda 5 Eleocharis smallil 2 Ellisia nyctelea 3 Epilobium coloratum 	5 UPL 3 FACU 5 UPL -3 FACW -5 OBL -5 OBL -1 FAC+ -5 OBL	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS Nt P-SEDGE Nt P-SEDGE Nt A-FORB Nt P-FORB	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO BARNYARD GRASS RED-ROOTED SPIKE RUSH MARSH SPIKE RUSH AUNT LUCY CINNAMON WILLOW HERB
ECHPUR ECHCRU ELEERY ELESMA ELLNYC EPICOL EQUARV	 Digitaria sanguinalis 3 Echinacea purpurea 0 Echinochloa crusgalli 2 Eleocharis erythropoda 5 Eleocharis smallil 2 Ellisia nyctelea 3 Epilobium coloratum 0 Equisetum arvense 	5 UPL 3 FACU 5 UPL -3 FACW -5 OBL -5 OBL -1 FAC+ -5 OBL 0 FAC	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS Nt P-SEDGE Nt P-SEDGE Nt P-SEDGE Nt A-FORB Nt P-FORB CRYPTOGAM	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO BARNYARD GRASS RED-ROOTED SPIKE RUSH MARSH SPIKE RUSH AUNT LUCY CINNAMON WILLOW HERB HORSETAIL
ECHPUR ECHCRU ELEERY ELESMA ELLNYC EPICOL EQUARV EREHIE	 Digitaria sanguinalis Echinacea purpurea Echinochloa crusgalli Eleocharis erythropoda Eleocharis smallil Ellisia nyctelea Epilobium coloratum Equisetum arvense Erechtites hieracifolia 	5 UPL 3 FACU 5 UPL -3 FACW -5 OBL -5 OBL -1 FAC+ -5 OBL 0 FAC 3 FACU	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS Nt P-SEDGE Nt P-SEDGE Nt A-FORB Nt P-FORB CRYPTOGAN Nt A-FORB	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO BARNYARD GRASS RED-ROOTED SPIKE RUSH MARSH SPIKE RUSH AUNT LUCY CINNAMON WILLOW HERB HORSETAIL FIREWEED
ECHPUR ECHCRU ELEERY ELESMA ELLNYC EPICOL EQUARV EREHIE ERIANS	 Digitaria sanguinalis Echinacea purpurea Echinochloa crusgalli Eleocharis erythropoda Eleocharis smallii Ellisia nyctelea Epilobium coloratum Equisetum arvense Erechtites hieracifolia Erigeron annuus 	5 UPL 3 FACU 5 UPL -3 FACW -5 OBL -5 OBL -1 FAC+ -5 OBL 0 FAC 3 FACU 1 FAC-	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS Nt P-SEDGE Nt P-SEDGE Nt A-FORB Nt P-FORB CRYPTOGAN Nt A-FORB Nt B-FORB	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO BARNYARD GRASS RED-ROOTED SPIKE RUSH MARSH SPIKE RUSH AUNT LUCY CINNAMON WILLOW HERB HORSETAIL FIREWEED ANNUAL FLEABANE
ECHPUR ECHCRU ELEERY ELESMA ELLNYC EPICOL EQUARV EREHIE ERIANS ERICAN	 Digitaria sanguinalis Echinacea purpurea Echinochloa crusgalli Eleocharis erythropoda Eleocharis smallil Ellisia nyctelea Epilobium coloratum Equisetum arvense Erechtites hieracifolia Erigeron annuus Erigeron canadensis 	5 UPL 3 FACU 5 UPL -3 FACW -5 OBL -5 OBL -1 FAC+ -5 OBL 0 FAC 3 FACU 1 FAC- 1 FAC-	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS Nt P-SEDGE Nt P-SEDGE Nt A-FORB CRYPTOGAM Nt A-FORB Nt B-FORB Nt B-FORB	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO BARNYARD GRASS RED-ROOTED SPIKE RUSH MARSH SPIKE RUSH AUNT LUCY CINNAMON WILLOW HERB HORSETAIL FIREWEED ANNUAL FLEABANE HORSEWEED
ECHPUR ECHCRU ELEERY ELESMA ELLNYC EPICOL EQUARV EREHIE ERIANS ERICAN ERIPHI	 Digitaria sanguinalis Echinacea purpurea Echinochloa crusgalli Eleocharis erythropoda Eleocharis smallil Ellisia nyctelea Epilobium coloratum Equisetum arvense Erechtites hieracifolia Erigeron annuus Erigeron canadensis Erigeron philadelphicus 	5 UPL 3 FACU 5 UPL -3 FACW -5 OBL -5 OBL -1 FAC+ -5 OBL 0 FAC 3 FACU 1 FAC- 1 FAC- 1 FAC- 3 FACW 5 UPL -5 OBL	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS Nt P-SEDGE Nt P-SEDGE Nt A-FORB CRYPTOGAN Nt A-FORB Nt B-FORB Nt A-FORB Nt A-FORB	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO BARNYARD GRASS RED-ROOTED SPIKE RUSH MARSH SPIKE RUSH AUNT LUCY CINNAMON WILLOW HERB HORSETAIL FIREWEED ANNUAL FLEABANE HORSEWEED MARSH FLEABANE
ECHPUR ECHCRU ELEERY ELESMA ELLNYC EPICOL EQUARV EREHIE ERIANS ERICAN ERIPHI EUDEUR EUPMAM EUPRUG	 Digitaria sanguinalis Echinacea purpurea Echinochloa crusgalli Eleocharis erythropoda Eleocharis smallil Ellisia nyctelea Epilobium coloratum Equisetum arvense Erechtites hieracifolia Erigeron annuus Erigeron canadensis Erigeron philadelphicus Euonymus europaeus Eupatorium maculatum Eupatorium rugosum 	5 UPL 3 FACU 5 UPL -3 FACW -5 OBL -5 OBL -1 FAC+ -5 OBL 0 FAC 3 FACU 1 FAC- 1 FAC- 1 FAC- 3 FACW 5 UPL -5 OBL 5 UPL	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS Nt P-SEDGE Nt P-SEDGE Nt A-FORB Nt P-FORB CRYPTOGAN Nt A-FORB Nt B-FORB Nt A-FORB Nt P-FORB Ad SHRUB Nt P-FORB	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO BARNYARD GRASS RED-ROOTED SPIKE RUSH MARSH SPIKE RUSH AUNT LUCY CINNAMON WILLOW HERB HORSETAIL FIREWEED ANNUAL FLEABANE HORSEWEED MARSH FLEABANE EUROPEAN SPINDLE TREE SPOTTED JOE PYE WEED WHITE SNAKEROOT
ECHPUR ECHCRU ELEERY ELESMA ELLNYC EPICOL EQUARV EREHIE ERIANS ERICAN ERIPHI EUDEUR EUPMAM	 Digitaria sanguinalis Echinacea purpurea Echinochloa crusgalli Eleocharis erythropoda Eleocharis smallil Ellisia nyctelea Epilobium coloratum Equisetum arvense Erechtites hieracifolia Erigeron annuus Erigeron canadensis Erigeron philadelphicus Euonymus europaeus Eupatorium maculatum 	5 UPL 3 FACU 5 UPL -3 FACW -5 OBL -5 OBL -1 FAC+ -5 OBL 0 FAC 3 FACU 1 FAC- 1 FAC- 1 FAC- 3 FACW 5 UPL -5 OBL	Ad A-FORB Ad A-GRASS Nt P-FORB Nt A-GRASS Nt P-SEDGE Nt P-SEDGE Nt A-FORB Nt P-FORB Nt A-FORB Nt B-FORB Nt A-FORB Nt A-FORB Nt A-FORB Nt P-FORB Ad SHRUB	TANSY MUSTARD HAIRY CRAB GRASS BROAD-LEAVED PURPLE CONEFLO BARNYARD GRASS RED-ROOTED SPIKE RUSH MARSH SPIKE RUSH AUNT LUCY CINNAMON WILLOW HERB HORSETAIL FIREWEED ANNUAL FLEABANE HORSEWEED MARSH FLEABANE EUROPEAN SPINDLE TREE SPOTTED JOE PYE WEED

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EUPSUP	0 Euphorbia supina	4 FACU- Nt A-FORB SPOTTED CREEPING S	PURGE
FESELA	Festuca elatior	2 FACU+ Ad P-GRASS TALL FESCUE	
FORINT	 Forsythia x intermedia 	5 UPL Ad SHRUB GOLDEN BELL	
FRAPES	1 Fraxinus pennsylvanica subintegerrima	0 FAC Nt TREE GREEN ASH	
	1 Galium aparine	3 FACU Nt A-FORB ANNUAL BEDSTRAW	
ONUBIP	2 Gaura biennis pitcheri	4 FACU- Nt B-FORB COMMON GAURA	
GERMAC	4 Geranium maculatum	5 [UPL] Nt P-FORB WILD GERANIUM	
GEUCAN	1 Geum canadense	0 FAC Nt P-FORB WOOD AVENS	
GLEHED	Glechoma hederacea		
GLETRI	2 Gleditsia triacanthos		
GLYNMX	· Glycine max	5 UPL Ad A-FORB SOY BEAN	
	0 Hackelia virginiana	1 FAC- Nt B-FORB STICKSEED	
HELAUT	5 Helenium autumnale	-4 FACW+ Nt P-FORB SNEEZEWEED	
HELANN	 Helianthus annuus Helianthus tahaaaaa 	1 FAC- Ad A-FORB GARDEN SUNFLOWER	
HELTUB	3 Helianthus tuberosus	0 FAC Nt P-FORB JERUSALEM ARTICHO	KE
HEMFUL .	Hemerocallis fulva	5 UPL Ad P-FORB ORANGE DAY LILY	
HESMAT	Hesperis matronalis	5 UPL Ad P-FORB DAME'S ROCKET	
HORJUB	Hordeum jubatum	-1 FAC+ Ad P-GRASS SQUIRREL-TAIL GRASS	
HOSLAN	* Hosta lancifolia	5 UPL Ad P-FORB PLANTAIN LILY	
HYDVIR	5 Hydrophyllum virginianum	0 [FAC] Nt P-FORB VIRGINIA WATERLEAF	
IPOHED	* Ipomoea hederacea	0 FAC Ad A-FORB IVY-LEAVED MORNING GLORY	
IPOPUR	 Ipomoea purpurea 	4 FACU- Ad A-FORB COMMON MORNING GLORY	
IRIGER	* Iris germanica	5 UPL Ad P-FORB GERMAN IRIS	
JUGNIG	5 Jugtans nigra	3 FACU Nt TREE BLACK WALNUT	
JUNDUD	4 Juncus dudleyi	0 [FAC] Nt P-FORB DUDLEY'S RUSH	
VIC	2 Juniperus virginiana crebra	3 FACU Nt TREE RED CEDAR	
SACCAN	2 Lactuca canadensis	2 FACU+ Nt B-FORB WILD LETTUCE	
LACSER	 Lactuca serriola 	0 FAC Ad B-FORB PRICKLY LETTUCE	
LAMAMP	 Lamium amplexicaule 	5 UPL Ad A-FORB HENBIT	
LATLAT	 Lathyrus latifolius 	5 UPL Ad P-FORB EVERLASTING PEA	
LEEORY	4 Leersia oryzoides	-5 OBL Nt P-GRASS RICE CUT GRASS	
LEMMIO	5 Lemna minor	-5 OBL Nt A-FORB SMALL DUCKWEED	
LEOCAR	 Leonurus cardiaca 	5 UPL Ad P-FORB MOTHERWORT	
LEPDEN	 Lepidium densiflorum 	0 FAC Ad A-FORB SMALL PEPPERCRESS	
LEPVIR	0 Lepidium virginicum	4 FACU- Nt A-FORB COMMON PEPPERCRE	SS
LIGVUL	 Ligustrum vulgare 	1 FAC- Ad SHRUB COMMON PRIVET	
LOBSIP	6 Lobelia siphilitica	-4 FACW+ Nt P-FORB GREAT BLUE LOBELIA	
LOLPER	• Lolium perenne	3 FACU Ad P-GRASS PERENNIAL RYE GRASS	
LONMUE	 Lonicera x muendeniensis 	5 UPL Ad SHRUB COMMON FLY HONEYSUCKLE	
LYCALB	 Lychnis alba 	5 UPL Ad A-FORB WHITE CAMPION	
LYCESC	 Lycopersicum esculentum 	5 UPL Ad A-FORB TOMATO	
LYSNUM	 Lysimachia nummularia 	-4 FACW+ Ad P-FORB MONEYWORT	
MACPOM	 Maclura pomifera 	3 FACU Ad TREE OSAGE ORANGE	
MALPUM	 Malus pumila 	5 UPL Ad TREE APPLE	
MALNEG	 Malva neglecta 	5 UPL Ad B-FORB COMMON MALLOW	
MATMAT	 Matricaria matricarioides 	3 FACU Ad A-FORB PINEAPPLE WEED	
MEDLUP	 Medicago lupulina 	1 FAC- Ad A-FORB BLACK MEDICK	
HEDSAT	 Medicago sativa 	5 UPL Ad P-FORB ALFALFA	
	• Melilotus alba	3 FACU Ad B-FORB WHITE SWEET CLOVER	
MELLOF	 Melilotus officinalis 	3 FACU Ad B-FORB YELLOW SWEET CLOVER	
MENARV	5 Mentha arvensis villosa	-5 [OBL] Nt P-FORB WILD MINT	
MORALB	 Morus alba 	0 FAC Ad TREE WHITE MULBERRY	

MUHFRO	3 Muhlenbergia frondosa	-3 FACW Nt P-GRASS	COMMON SATIN GRASS
MUHSCH	0 Muhlenbergia schreberi	3 [FACU] Nt P-GRASS	NIMBLEWILL
NARPSE	 Narcissus pseudonarcissus 	5 UPL Ad P-FORB	DAFFODIL
NASOFF	Nasturtium officinale	-5 OBL Ad P-FORB	WATER CRESS
NEPCAT	 Nepeta cataria 	1 FAC- Ad P-FORB	CATNIP
OENBIE	0 Oenothera biennis	3 FACU Nt B-FORB	
ORNUMB	Ornithogalum umbellatum	5 UPL Ad P-FORB	STAR OF BETHLEHEM
OXASTR	0 Oxalis stricta	5 UPL Nt P-FORB	COMMON WOOD SORREL
PANCAP	1 Panicum capillare	0 FAC Nt A-GRASS	OLD WITCH GRASS
PANDIJ	0 Panicum dichotomiflorum	-2 FACW- Nt A-GRASS	KNEE GRASS
PANVIR	5 Panicum virgatum	-1 FAC+ Nt P-GRASS	SWITCH GRASS
PARINS	1 Parthenocissus inserta	3 FACU Nt W-VINE	THICKET CREEPER
PARQUI	2 Parthenocissus quinquefolia	1 FAC- Nt W-VINE	VIRGINIA CREEPER
PHAARU	Phalaris arundinacea	-4 FACW+ Ad P-GRASS	REED CANARY GRASS
PHIPUB	Philadelphus pubescens	5 UPL Ad SHRUB	DOWNY MOCK ORANGE
PHLPRA	Phleum pratense	3 FACU Ad P-GRASS	τιμοτηγ
PHLPAN	Phlox paniculata	3 FACU Ad P-FORB	GARDEN PHLOX
PHRLEP	4 Phryma leptostachya	5 UPL Nt P-FORB	LOPSEED
PHYHET	3 Physalis heterophylla	5 UPL Nt P-FORB	CLAMMY GROUND CHERRY
PHYSUB	0 Physalis subglabrata	5 UPL Nt P-FORB	TALL GROUND CHERRY
PINSTR	9 Pinus strobus	3 FACU Nt TREE	WHITE PINE
PINSYL	 Pinus sylvestris 	5 UPL Ad TREE	SCOTCH PINE
PLALAN	* Plantago lanceolata	0 FAC Ad P-FORB	ENGLISH PLANTAIN
PLAMAJ	* Plantago major	-1 FAC+ Ad P-FORB	COMMON PLANTAIN
PLARUG	0 Plantago rugelii	0 FAC Nt A-FORB	RED-STALKED PLANTAIN
PLAOCC	9 Platanus occidentalis	-3 FACW Nt TREE	SYCAMORE
POAPRA	 Poa pratensis 	1 FAC- Ad P-GRASS	KENTUCKY BLUE GRASS
POLCAL	3 Polygonatum canaliculatum	3 FACU Nt P-FORB	SMOOTH SOLOMON'S SEAL
POLARE	Polygonum arenastrum	5 UPL Ad A-FORB	SIDEWALK KNOTWEED
POLBUN	Polygonum bungeanum	-3 [FACW] Ad P-FORB	PRICKLY SMARTWEED
POLHYR	2 Polygonum hydropiper	-3 FACW Nt A-FORB	WATER PEPPER
POLLAP	0 Polygonum lapathifolium	-4 FACW+ Nt A-FORB	HEARTSEASE
POLPEN	0 Polygonum pensylvanicum	-4 FACW+ Nt A-FORB	PINKWEED
POLPER	 Polygonum persicaria 	1 [FAC-] Ad A-FORB	LADY'S THUMB
POLSCN	1 Polygonum scandens	0 FAC Nt H-VINE	CLIMBING FALSE BUCKWHEAT
POLGVI	2 Polygonum virginianum	0 FAC Nt P-FORB	WOODLAND KNOTWEED
POPDEL	2 Populus deltoides	-1 FAC+ Nt TREE	EASTERN COTTONWOOD
POTNOR	0 Potentilla norvegica	0 FAC Nt A-FORB	NORWAY CINQUEFOIL
POTREC	Potentilla recta	5 UPL Ad P-FORB	UPRIGHT CINQUEFOIL
PRUAME	5 Prunus americana	5 UPL Nt TREE	WILD PLUM
PRUSER	1 Prunus serotina	3 FACU Nt TREE	WILD BLACK CHERRY
PRUVIR	3 Prunus virginiana	3 [FACU] Nt SHRUB	CHOKE CHERRY
PTETRT	7 Ptelea trifoliata	2 FACU+ Nt SHRUB	WAFER ASH
QUEMAC	5 Quercus macrocarpa	1 FAC- Nt TREE	BUR OAK
QUEPAU	8 Quercus palustris	-3 FACW Nt TREE	PIN OAK
RANABO	0 Ranunculus abortivus	-2 FACW- Nt A-FORB	SMALL-FLOWERED BUTTERCUP
RHACAT	 Rhamnus cathartica 	3 FACU Ad SHRUB	COMMON BUCKTHORN
RHERHA	Rheum rhaponticum	5 UPL Ad P-FORB	RHUBARB
RHURAD	2 Rhus radicans	-1 FAC+ Nt W-VINE	POISON IVY
RIBMIS	5 Ribes missouriense	5 UPL Nt SHRUB	WILD GOOSEBERRY
ROSCAR	5 Rosa carolina	4 FACU- Nt SHRUB	PASTURE ROSE
ROSMUL	• Rosa multiflora	3 FACU Ad SHRUB	MULTIFLORA ROSE

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	RUBOCC	2	Rubus occidentalis	5	UPL	Nt SHRUB	BLACK RASPBERRY
	RUDTRI	3	Rudbeckia triloba	1	FAC-	Nt A-FORB	BROWN-EYED SUSAN
	RUMCRI	•	Rumex crispus	-1	FAC+	Ad P-FORB	CURLY DOCK
	SAGLAT	4	Sagittaria latifolia	-5	OBL	Nt P-FORB	COMMON ARROWHEAD
1	LB	•	Salix alba	-3	FACW	Ad TREE	WHITE WILLOW
	SHEFRA	٠	Salix fragilis	-1	FAC+	Ad TREE	CRACK WILLOW
	SALINT	1	Salix interior	-5	OBL	Nt SHRUB	SANDBAR WILLOW
	SAMCAN	1	Sambucus canadensis	-2	FACW-	Nt SHRUB	ELDERBERRY
	SANGRE	2	Sanicula gregaria	-1	FAC+	Nt P-FORB	CLUSTERED BLACK SNAKEROOT
	SCIATR	4	Scirpus atrovirens	-5	OBL	Nt P-SEDGE	DARK GREEN RUSH
	SCIVAC	5	Scirpus validus creber	-5	OBL	Nt P-SEDGE	GREAT BULRUSH
	SCRMAR	4	Scrophularia marilandica	4	FACU-	Nt P-FORB	LATE FIGWORT
	SCULAT	5	Scutellaria lateriflora	-5	OBL	Nt P-FORB	MAD-DOG SKULLCAP
	SETFAB	•	Setaria faberi	2	FACU+	Ad A-GRASS	GIANT FOXTAIL
	SETVIV	•	Setaria viridis	1	(FAC-)	Ad A-GRASS	GREEN FOXTAIL
	SMISTE	5	Smilacina stellata	1	FAC-	Nt P-FORB	STARRY FALSE SOLOMON'S SEAL
	SMILAS	5	Smilax lasioneura	5	[UPL]	Nt H-VINE	COMMON CARRION FLOWER
	SOLAME	0	Solanum americanum	4	FACU-	Nt A-FORB	BLACK NIGHTSHADE
	SOLCAR	•	Solanum carolinense	4	FACU-	Ad P-FORB	HORSE NETTLE
	SOLDUL	٠	Solanum dulcamara	0	FAC	Ad W-VINE	BITTERSWEET NIGHTSHADE
	SOLCAN	1	Solidago canadensis	3	FACU	Nt P-FORB	CANADA GOLDENROD
	SONASP	•	Sonchus asper	3	[FACU]	Ad A-FORB	SPINY SOW THISTLE
	SONULI	٠	Sonchus uliginosus	1	FAC-	Ad P-FORB	COMMON SOW THISTLE
	STEMED	*	Stellaria media	3	FACU	Ad A-FORB	COMMON CHICKWEED
	SYRVUL	٠	Syringa vulgaris	5	UPL	Ad SHRUB	LILAC
1	OFF.	•	Taraxacum officinale	3	FACU	Ad P-FORB	COMMON DANDELION
	LUCAN	3	Teucrium canadense	-3	FACW	Nt P-FORB	GERMANDER
	THLARV	٠	Thlaspi arvense	5	UPL	Ad A-FORB	PENNY CRESS
	TRAPRA	*	Tragopogon pratensis	5	UPL	Ad B-FORB	COMMON GOAT'S BEARD
	TRIPRA	٠	Trifolium pratense	5	UPL	Ad P-FORB	RED CLOVER
	TRIREP	•	Trifolium repens	2	FACU+	Ad P-FORB	WHITE CLOVER
	TRIREC	5	Trillium recurvatum	4	FACU-	Nt P-FORB	RED TRILLIUM
	TYPLAT	1	Typha latifolia	-5	OBL	Nt P-FORB	BROAD-LEAVED CATTAIL
	ULMAME	3	Ulmus americana	-2	FACW-	Nt TREE	AMERICAN ELM
	ULMPUM	٠	Ulmus pumila	5	UPL	Ad TREE	SIBERIAN ELM
	ULMRUB	4	Ulmus rubra	0	FAC	Nt TREE	SLIPPERY ELM
	URTPRO	2	Urtica procera	-1	FAC+	Nt P-FORB	TALL NETTLE
	VERTHA	٠	Verbascum thapsus	5	UPL	Ad B-FORB	COMMON MULLEIN
	VERURU	5	Verbena urticifolia	5	UPL	Nt P-FORB	HAIRY WHITE VERVAIN
	VERARV	•	Veronica arvensis	3	FACU	Ad A-FORB	CORN SPEEDWELL
	VERPEE	0	Veronica peregrina	5	UPL	Nt A-FORB	PURSLANE SPEEDWELL
	VERSER	٠	Veronica serpyllifolia	0	[FAC]	Ad P-FORB	THYME-LEAVED SPEEDWELL
	VIBOPU	٠	Viburnum opulus	3	(FACU)	Ad SHRUB	EUROPEAN HIGHBUSH CRANBERRY
	VIOSOR	3	Viola sororia	1	FAC-	Nt P-FORB	COMMON BLUE VIOLET
	VITRIP	2	Vitis riparia	-2	FACW-	Nt W-VINE	RIVERBANK GRAPE
	WISMAC	•	Wisteria macrostachya	5	(UPL)	Ad W-VINE	KENTUCKY WISTERIA
	XANSTR	٠	Xanthium strumarium	0	FAC	Ad A-FORB	COCKLEBUR
	XHCSMA	*	Yucca smalliana	5	UPL	Ad SHRUB	ADAM'S NEEDLE
	MAY	•	Zea mays	5	UPL	Ad A-GRASS	CORN

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20-Jul-99

Table 2. Vertebrate animals observed on the McDonald Farm (1998-1999).

SPECIES POINT INDEX (RAT) AND STATUS (S): introduced I=2; abundant A=4; common C=6; fairly common F=8; uncommon U=10; unknown N, rare R = 15; Illinois watch list (W), threatened (T), or endangered (E)=20.

BREEDING STATUS - not breeding OR breeding (B) = (RAT X 2). ANIMAL CLASS (C): fish=F; amphibian=A; reptile=R; bird=B; mammal=M.

FAUNAL RATING CLASS: NUMBER OF KNOWN BREEDING SPECIES:

- 23 TOTAL
- 0 FISH
- 2 AMPHIBIANS
- 0 REPTILES
- 21 BIRDS
- 0 MAMMALS

NUMBER OF SPECIES:

- 62 TOTAL
- 0 FISH
- 2 AMPHIBIANS
- 1 REPTILES
- 42 BIRDS
- 17 MAMMALS

NUMBER OF SPECIES:

- 7 ABUNDANT
- 24 COMMON
- 11 FAIRLY COMMON
- 12 UNCOMMON
- 4 RARE
- 0 UNKNOWN
- 0 EXTINCT
- 4 INTRODUCED

NUMBER OF SPECIES:

- 0 ENDANGERED
- 0 THREATENED
- 0 WATCH LIST

		_	_	_				
ACRONYM			C	s	ET	RAT		SCIENTIFIC NAME BUFO AMERICANUS
AMTO	A7	B	A	A F			AMERICAN TOAD WESTERN CHORUS FROG	PSEUDACRIS T. TRISERIATA
WCFR	A9	В	A R	г С			EASTERN GARTER SNAKE	THAMNOPHIS S. SEMIFASCIATA
EGSN CAGO	R15 B9		В	A		-	CANADA GOOSE	BRANTA CANADENSIS
MALL	B9 B11		В	Â			MALLARD	ANAS PLATYRHYNCHOS
COHA	B13B		в	R			COOPER'S HAWK	ACCIPTER COOPERII
RTHA	816	в	в	F			RED-TAILED HAWK	BUTEO JAMAICENSIS
AMKE	B17	0	в	F			AMERICAN KESTREL	FALCO SPARVERIUS
RNPH	B19		B	i			RING-NECKED PHEASANT	PHASIANUS COLCHICUS
KILL	B26		в	c		8	KILLDEER	CHARADRIUS VOCIFERUS
RODO	B31	в	в	T		4	ROCK DOVE	COLUMBA LIVIA
MODO	B32	в	в	С		12	MOURNING DOVE	ZENAIDA MACROURA
GHOW	B36		в	F		8	GREAT HORNED OWL	BUBO VIRGINIANUS
CHSW	B41	в	в	F		16	CHIMNEY SWIFT	CHAETURA PELAGICA
RTHU	B42	в	в	R		30	RUBY-THROATED HUMMINGBIRD	ARCHILOCHUS COLUBRIS
RHWO	B44		в	F		8	RED-HEADED WOODPECKER	MELANERPES ERTHROCEPHALUS
DOWO	B46	в	в	F		16	DOWNY WOODPECKER	PICOIDES PUBESCENS
HAWO	B47		в	U		10	HAIRY WOODPECKER	PICOIDES VILLOSUS
YSFL	B48	в	в	С		12	NORTHERN FLICKER	COLAPTES AURATUS
EAWP	B49		в	U		10	EASTERN WOOD-PEWEE	CONTOPUS VIRENS
TRES	B57	в	в	F		16	TREE SWALLOW	TACHYCINETA BICOLOR
BARS	B60	В	в	С		12	BARN SWALLOW	HIRUNDO RUSTICA
BLJA	B61		в	Α		4	BLUE JAY	CYANOCITTA CRISTATA
AMCR	B62		в	C			AMERICAN CROW	CORVUS BRACHYRHYNCHOS
BCCH	B63	В	в	С		12	BLACK-CAPPED CHICKADEE	PARUS ATRICAPILLUS
WBNU	B65		в	U			WHITE-BREASTED NUTHATCH	SITTA CAROLINENSIS
HOWR	B66	В	B	С			HOUSE WREN	TROGLODYTES AEDON
EABL	B70	в	в	R				SIALIA SIALIS
AMRO	B73	в	В	A		-		
GRCA	B74		В	c				DUMETELLA CAROLINENSIS TOXOSTOMA RUFUM
BRTH	B76		B	С				BOMBYCILLA CEDRORUM
CEDW	B77	-	B	U			CEDAR WAXWING EUROPEAN STARLING	STURNUS VULGARIS
EUST	B78	8	B B	i R		-	WARBLING VIREO	VIREO GILVUS
WAVI	B82 B96	в	B	с С			NORTHERN CARDINAL	CARDINALIS CARDINALIS
NOCA INBU	B98	D	В	c				PASSERINA CYANEA
HOFI	B98A	R	в	U		-	HOUSE FINCH	CARPODACUS MEXICANUS
CHSP	B101	в	в	U			CHIPPING SPARROW	SPIZELLA PASSERINA
SOSP	B107	0	в	č			SONG SPARROW	MELOSPIZA MELODIA
RWBL		в	8	Ā			RED-WINGED BLACKBIRD	AGELAIUS PHOENICEUS
COGR	B114	В	В	A			COMMON GRACKLE	QUISCALUS QUISCULA
BHCO	B115	-	в	С			BROWN-HEADED COWBIRD	MOLOTHRUS ATER
BAOR	B117		в	U		10	NORTHERN ORIOLE	ICTERUS GALBULA
AMGO		в	B	c		12	AMERICAN GOLDFINCH	CARDUELIS TRISTIS
HOSP	B119		в	I		4	HOUSE SPARROW	PASSER DOMESTICUS
VIOP	M1		М	F		8	VIRGINIA OPOSSUM	DIDELPHIS VIRGINIANA
STSW	M4		м	U		10	SHORT-TAILED SHREW	BLARINA BREVICAUDA
EAMO	M5		м	U		10	EASTERN MOLE	SCALOPUS AQUATICUS
LBMY	M7		м	U		10	LITTLE BROWN MYOTIS	MYOTIS LUCIFUGUS
RACC	M15		М	С		6	RACCOON	PROCYON LOTOR
STSK	M21		М	F		8	STRIPED SKUNK	MEPHITIS MEPHITIS
COYO	M22		М	U		10	COYOTE	CANIS LATRANS
REFO	M23		М	U		10	RED FOX	VULPES VULPES
WOOD	M26		М	С			WOODCHUCK	
EACH	M29		М	С			EASTERN CHIPMUNK	
GRSQ	M30		М	F		8	GRAY SQUIRREL	SCIURUS CAROLINENSIS

FOSQ	M31	м	С
WFMO	M35	м	С
MEVO	M37	М	С
MUSK	M39	м	С
EACO	M43	М	С
WTDE	M44	М	С

6 FOX SQUIRREL
6 WHITE-FOOTED MOUSE
6 MEADOW VOLE
6 MUSKRAT
6 EASTERN COTTONTAIL
6 WHITE-TAILED DEER

SCIURUS NIGER PEROMYSCUS LEUCOPUS MICROTUS PENNSYLVANICUS ONDATRA ZIBETHICUS SYLVILAGUS FLORIDANUS ODOCOILEUS VIRGINIANUS

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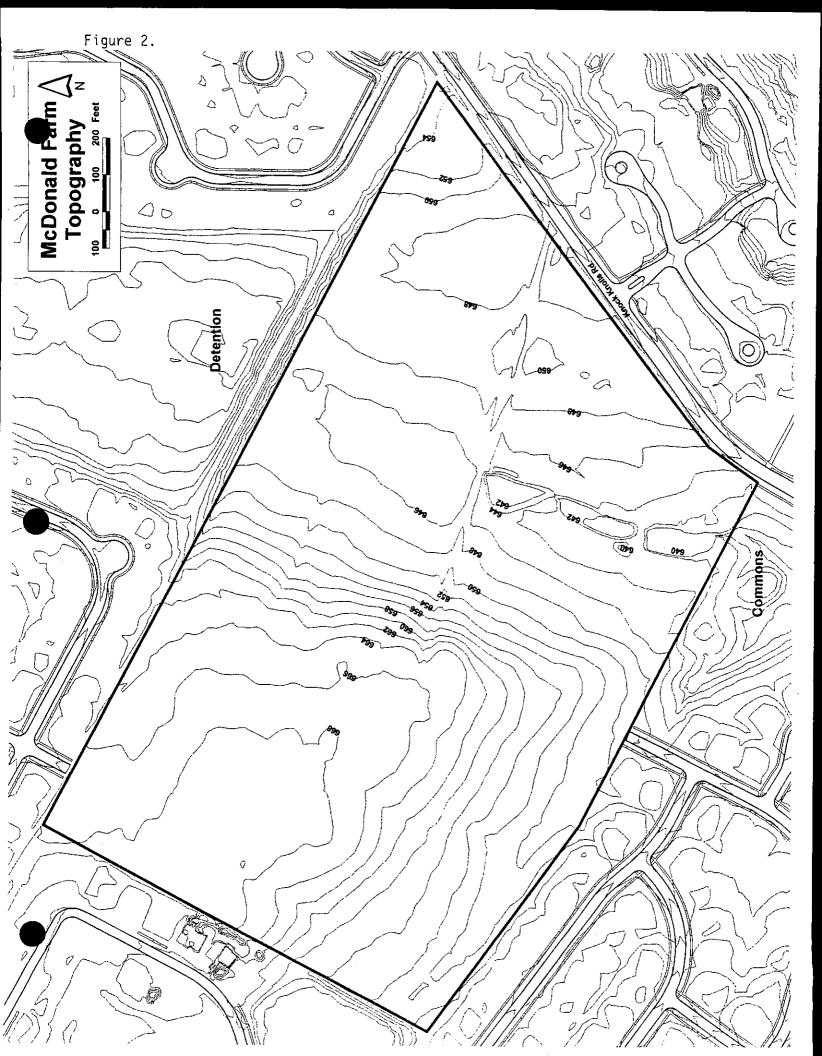
Table 3. Migrant birds observed on the McDonald Farm (1998-1999).

20-Jul-99

6 Total Number of Species

ACRONYMCODECOMMON NAMELEOWN110LONG-EARED OWLBRCRN137BROWN CREEPERBAWWN185BLACK-AND-WHITE WARBLERINBUN204INDIGO BUNTINGSAVSN213SAVANNAH SPARROWSCJUN225DARK-EYED JUNCO

SCIENTIFIC NAME ASIO OTUS CERTHIA AMERICANA MNIOTILTA VARIA PASSERINA CYANEA PASSERCULUS SANDWICHENSIS JUNCO HYEMALIS



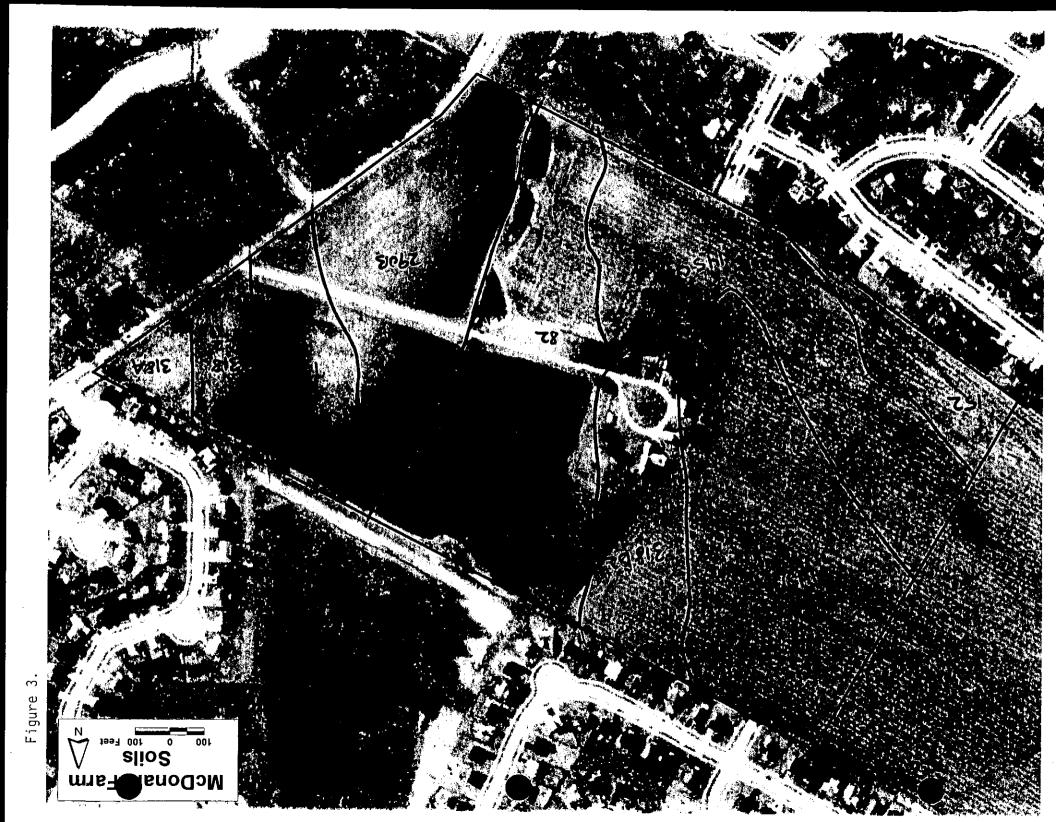
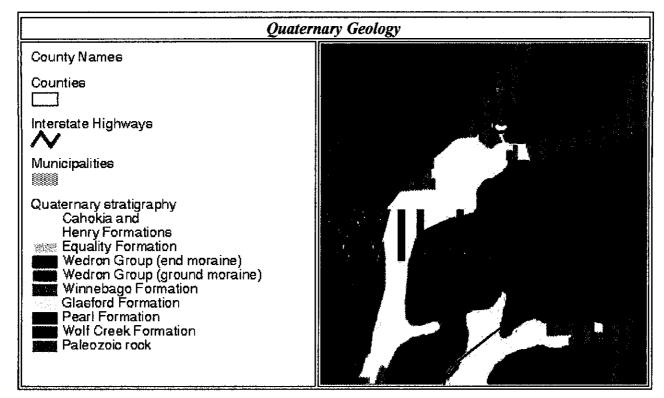


Figure 4. Geology of McDonald Farm site.



Appendix 1. Explanation of Terms on Flora List

Native species = number of native species present. Native species are listed in **boldface** type. **Total species** = number of native and introduced species present. Introduced species are listed in *italicized* type.

Native Mean C = the average of Coefficients of Conservatism for all native plant species present.

W/Adventives = Mean C value with native and introduced species.

Native FQI - Floristic Quality Index - This is derived by taking the native mean C for all native plants and multiplying by the square root of the number of native species present. **W/Adventives =** FQI with native and introduced plants

Native Mean W = the average of the numerical expressions of native plant species for National Wetland Categories (ranges from -5 to 5, with -5 being wet and 5 being dry). W/Adventives = the average of the numerical expressions for National Wetland Categories for native and introduced plant species.

Conservatism = the percentage of native plant species with a C value of 4 or greater

Acronym = the six-letter acronym for each plant species derived from the plant species scientific name.

C = Coefficient of Conservatism - Each native plant species has been given a C value from 0 to 10. Introduced plant species are not assigned values.

Scientific Name = The Latin name for each plant species.

W = Coefficient of Wetness

Wetness = National Wetland Category assigned by Reed (1988) for Region 3, of the United States Fish and Wildlife Service. Plants are designated as Obligate Wetland, Facultative Wetland, Facultative, Facultative Upland, and Upland. These categories are defined as follows: **OBL** = Obligate Wetland - Occurs almost always in wetlands under natural conditions (estimated >99% probability).

FACW = Facultative Wetland - Usually occurs in wetlands, but occasionally found in nonwetlands (estimated 67%-99% probability).

FAC = Facultative - Equally likely to occur in wetlands or non-wetlands (estimated 34%-66% probability).

FACU = Facultative Upland - Occasionally occurs in wetlands, but usually occur in non-wetlands (estimated 1%-33% probability).

UPL = Upland- Occurs almost never in wetlands under natural conditions (estimated <1% probability).

For about 20% of our flora "+" or "-" signs have been attached to the three Facultative categories to express exaggerated tendencies for those species. The "+" sign denotes that the species generally has a greater estimated probability of occurring in wetlands than species having the general indicator category, but a lesser estimated probability of occurring in wetlands than those having the next highest general indicator. The "-" sign denotes that the species generally has a lesser estimated probability of occurring in wetlands than those having the next highest general indicator. The "-" sign denotes that the species generally has a lesser estimated probability of occurring in wetlands than species having the next highest general indicator for the species having in wetlands than species having the heat a greater estimated probability of occurring in wetlands than species having the next lowest indicator status.

Physiog. = Physiogomy of each plant species
Nt = Native
Ad = Adventive (introduced)
P = Perennial
B = Biennial
A = Annual
W = Woody
H = Herbaceous
Cryptogam = Ferns, horsetails, and clubmosses

Common Name = the common name for each plant species.



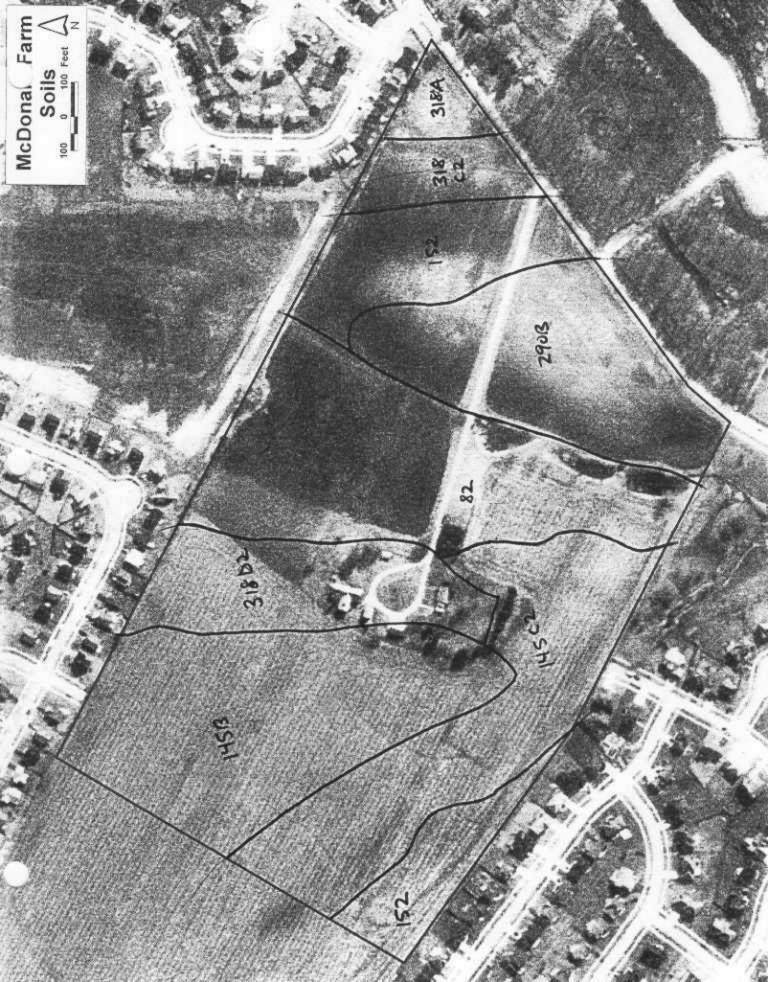


Figure 4. Geology of McDonald Farm site.

