

SOIL-WETLAND RELATIONSHIPS: A FIELD TOUR OF THE WEST CHICAGO PRAIRIE

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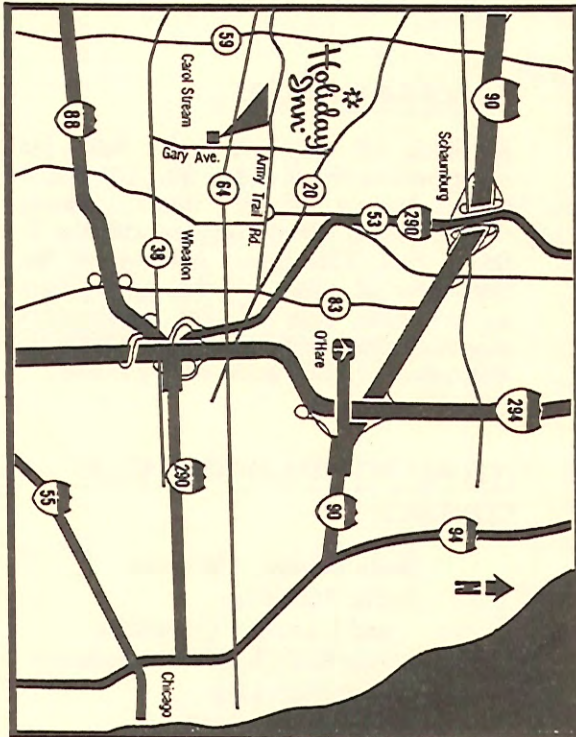


in cooperation with

USDA, Soil Conservation Service,
University of Illinois at
Urbana-Champaign,
Morton Arboretum and
The Forest Preserve District
of DuPage County

September 27-28, 1990

Bruce Putman
1200 Portage Lane
Woodstock, IL 60098



SOIL-WETLAND RELATIONSHIPS:
A FIELD TOUR OF THE
WEST CHICAGO PRAIRIE

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Preserve District of DuPage County

Carol Stream Holiday Inn
150 South Gary Avenue
Carol Stream, Illinois 60168
September 27-28, 1990

BACKGROUND

The wetland delineation process as defined by the unified method focuses on three components to define a wetland area: hydrophytic vegetation, hydric soils, and wetland hydrology. The West Chicago Prairie, located in western DuPage County, is one of the premier natural areas in the northern part of the state. This location provides an outstanding opportunity to examine the complex relationships among these factors and how they are used in the wetland delineation process. The West Chicago Prairie is a unique example of a high quality natural area containing more than 500 species of plant life. It encompasses savannah, mesic prairie, wet prairie, sedge meadow, and wetland community areas. The Illinois Soil Classifiers Association has sponsored this workshop to promote a better awareness of how hydric soils interrelate to these wetland plant communities.

SCHEDULE

Thursday, September 27, 1990

- 10:30 Registration
Holiday Inn, Carol Stream
- 12:30 Introduction:
Donald Fehrenbacher -
President, ISCA
- 12:45 Federal Wetland
Protection Policies
John Rogner - Acting Section
Chief, Regulatory Functions
Branch, U.S. Army Corp of
Engineers, Chicago, Illinois
- 1:30 State, County and Local Policies
Regarding Wetland Protection
Robert Whyte - Aquatic
Biologist, Lake County Health
Department
- 2:00 Characteristics of Hydric Soils
Dr. Robert G. Darmody -
University of Illinois,
Urbana-Champaign
- 2:45 BREAK
- 3:00 Hydrologic Relationships Between
Soils and Plant Communities
Dr. James Richardson - North
Dakota State University
- 4:15 Hydric Soils and the Wetland
Delineation Process
Peter Fletcher - USDA, Soil
Conservation Service,
U.S. Army Corps of Engineers,
Wetland Liaison,
Middleboro, Massachusetts
- 5:30 ADJOURN
- 7:30 BUFFET DINNER - CAROL
STREAM HOLIDAY INN

Friday, September 28, 1990

- 9:00 Field Trip to West Chicago
Prairie Wetland Area
- 12:30 Return to Holiday Inn

Roundtrip bus transportation will be provided to and from the site.

ACCOMMODATIONS

A block of rooms will be held for registrants at the Holiday Inn, 150 South Gary Avenue, Carol Stream, Illinois (708-665-3000). Please register with the Illinois Soil Classifiers Association by September 10, 1990, so that appropriate space can be reserved. For registrations received after September 10, 1990: no assurances of reservation can be made.

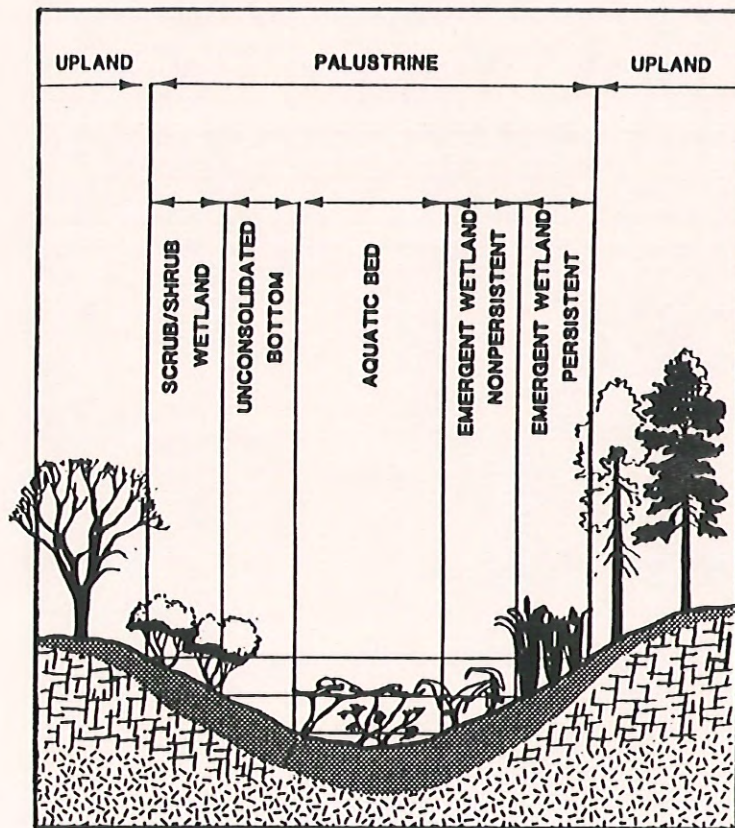
FOR ADDITIONAL INFORMATION

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FIELDTRIP GUIDEBOOK
FOR
SOIL-WETLAND RELATIONSHIPS:
A FIELD TOUR OF THE WEST CHICAGO PRAIRIE



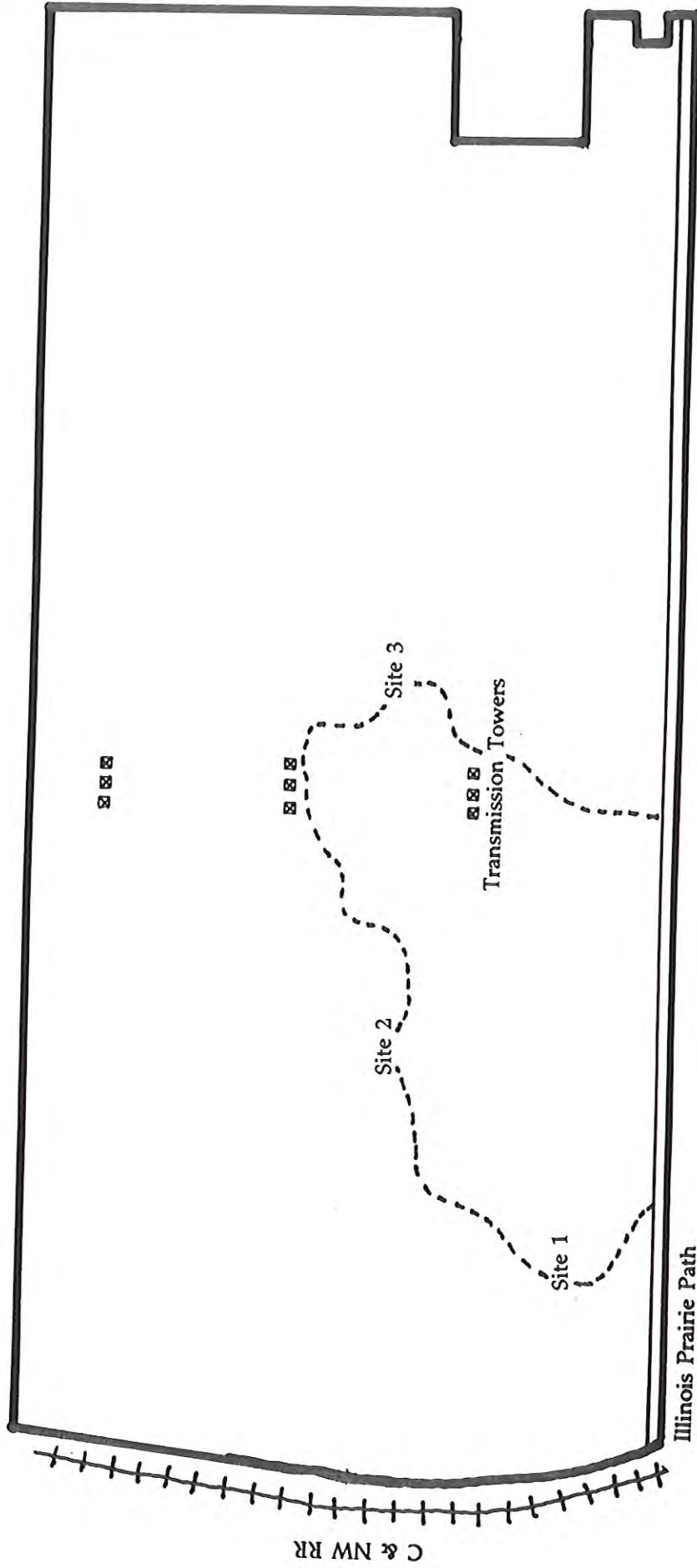
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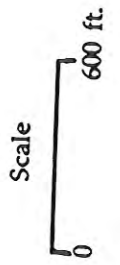
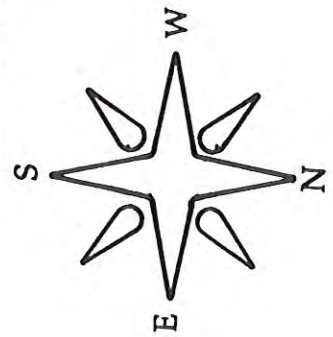
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District of DuPage County

Field Tour Sites



West Chicago Prairie



FIELDTRIP GUIDEBOOK
FOR
SOIL-WETLAND RELATIONSHIPS:
A FIELD TOUR OF THE WEST CHICAGO PRAIRIE

Patrick Kelsey
Richard Hootman
Urban Vegetation Laboratory
Morton Arboretum

Wayne Lampa
Forest Preserve District of DuPage County

September 28, 1990

ILLINOIS SOIL CLASSIFIERS ASSOCIATION

ACKNOWLEDGEMENTS

The Illinois Soil Classifiers Association extends its gratitude to the Forest Preserve District of DuPage County for access to and use of the West Chicago Prairie Preserve.

The authors would like to thank Don Fehrenbacher, SCS, and Bruce Putman, Consulting Soil Classifier, for their assistance in describing the soil profiles. Also thanks to Dr. Bob Darmody, UIUC, for textural analyses, organic carbons, and pHs.

Introduction

The West Chicago Prairie is a group of ecosystems owned and managed by the Forest Preserve District of DuPage County. Located in West Chicago, Illinois, the site consists of upland savanna, upland prairie, old field, mesic and wet-mesic prairie, sedge meadow, marsh, swamp, and open water (Figure 1).

The West Chicago Prairie is located at 41°52' North Latitude and 88°15' West Longitude. It is more than 250 acres in size and 513 native plant species have been identified within the boundaries of the preserve. This natural area represents one of the few areas in northeastern Illinois where intact upland and wetland soils can be studied and monitored with respect to a natural, high quality ecosystem.

Surficial Geology

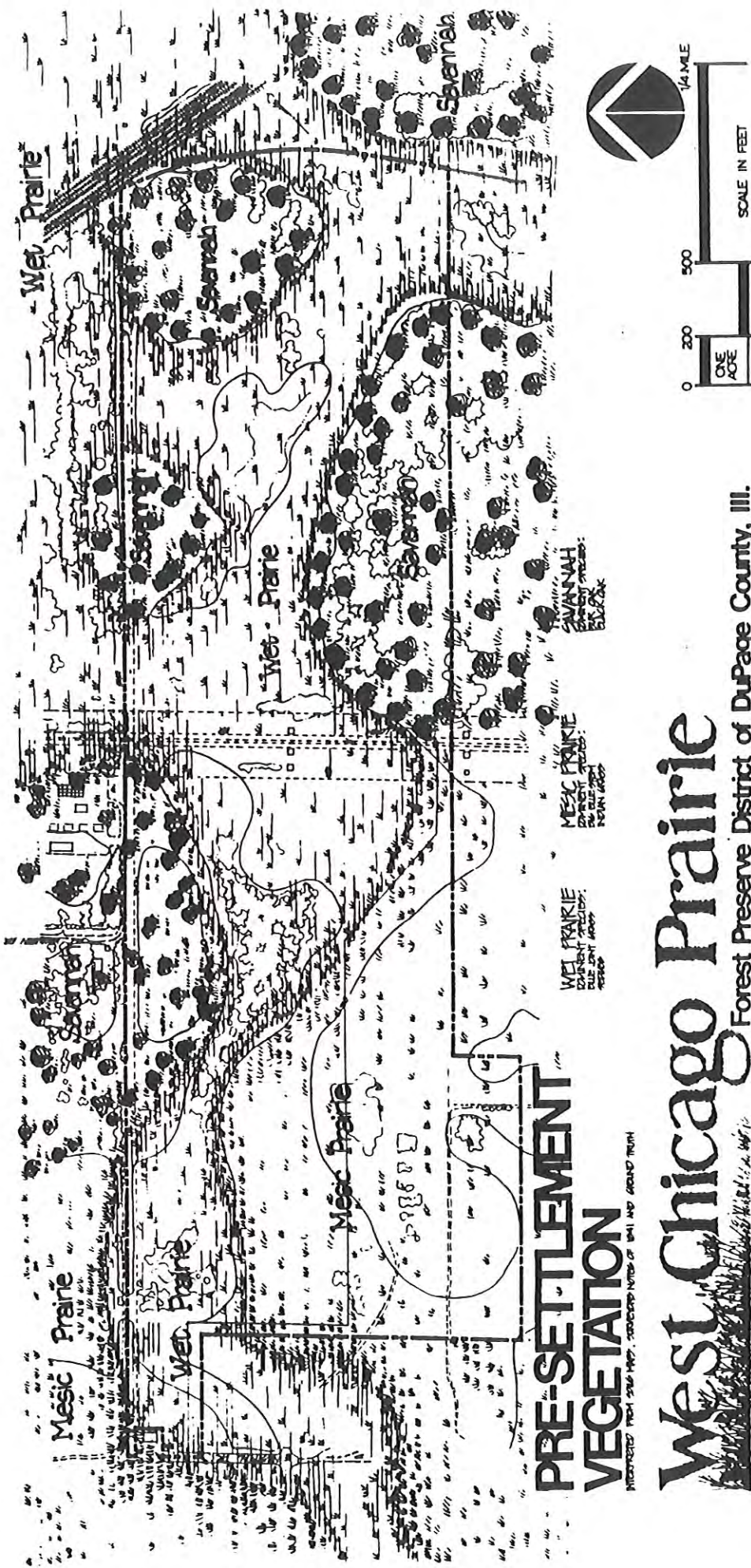
The West Chicago Prairie lies within a geologically complex area in western DuPage County. The types of materials found on this site and their stratigraphy are the result of the most recent glaciation during the Wisconsin Stage. Glaciers retreated from this site approximately 15,000 to 20,000 years before present.

The prairie is on an outwash complex near the front of the West Chicago Moraine, the western edge of the Valparaiso Morainic System. This outwash complex separates the West Chicago Moraine from the Minooka Moraine which lies just west of the site. The Manhattan-Minooka Groundmoraine begins just to the south of the prairie.

The local relief of the prairie is about 17 feet. An elevation of approximately 763 feet above mean sea level (msl) occurs near the northeast and southeast corners of the parcel. This elevation drops to 746 feet msl in a wetland near the southwest corner (Figure 2). Slope across the prairie overall averages less than 0.4%.

The wetland ecosystem of the West Chicago Prairie lies within a subtle drainageway which winds its way east to west through the site. Pockets of open water dot the wetland and water movement through the wetlands is very slow. The soils within the wetlands have typically formed in 1) 10 to 20 inches of recently deposited organic materials over 20 to 30 inches of water reworked silty wash over sand and gravel outwash, or 2) silty alluvium over sand and gravel outwash. The alluvium is identified as Cahokia Alluvium (generally poorly sorted silt and sand) and the sand and gravel outwash is the Batavia Member of the Henry Formation (well sorted). Very small pockets of Grayslake Peat can be found within the area.

Figure 1. Pre-settlement Vegetation of the West Chicago Prairie.



West Chicago Prairie

Forest Preserve District of DuPage County, Ill.
CITY OF WEST CHICAGO

**PRE-SETTLEMENT
VEGETATION**

RESTORED FROM 1940 MAP. SPECIES NAMES OF 1941 AND AROUND THEM

Figure 2. Topographic Map of the West Chicago Prairie.

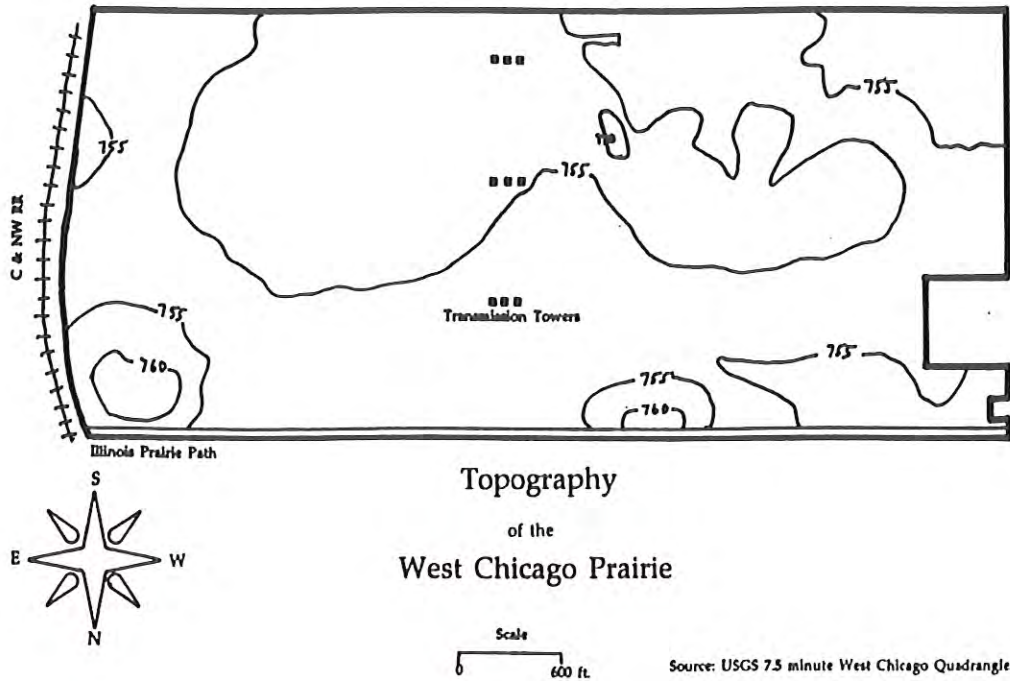
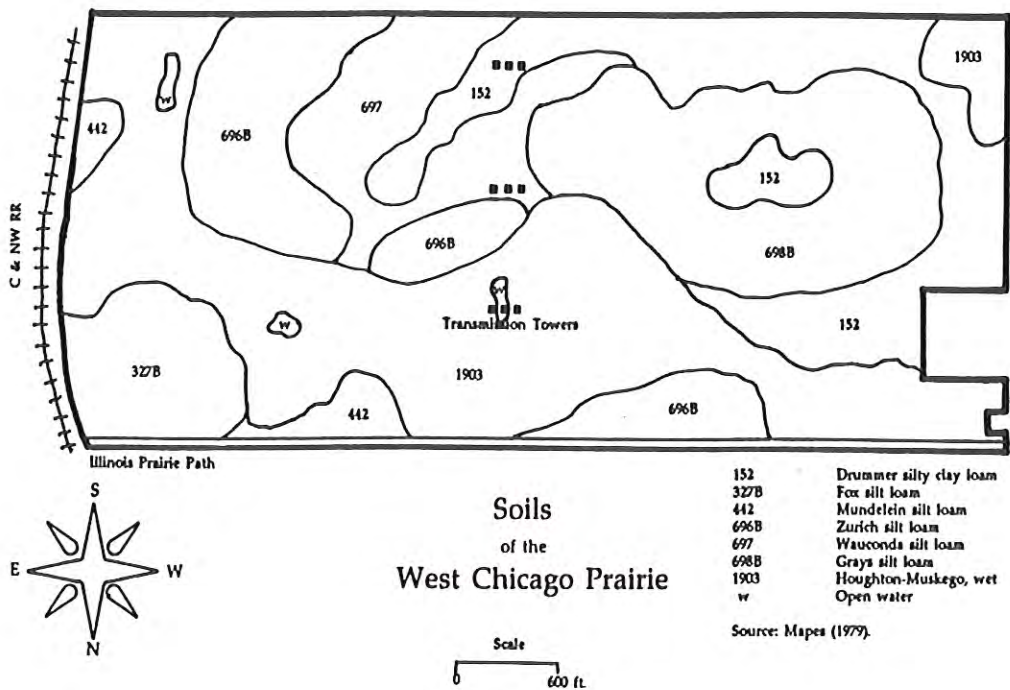


Figure 3. Soil Map of the West Chicago Prairie.



Upland soils on the prairie are mostly developed in Richland Loess underlain by stratified silts and sands over gravelly and sandy outwash, the Batavia Member of the Henry Formation. The silty and sandy wash materials appear to represent water reworked loess and alluvial deposits. Localized soils within the oak savanna of the prairie have formed in nearly pure sand and gravel.

Two types of till are found near West Chicago Prairie: the Wadsworth Till Member and the Yorkville Member of the Wedron Formation. The glacial till of the West Chicago Moraine is the Wadsworth Till Member. It is typically gray in color and has a silty clay loam to silty clay texture, though exceptions occur. It often has pebbles, cobbles, and even boulders. The Yorkville Till, found nearby in the Manhattan-Minooka Groundmoraine and Minooka Moraine, is very similar to the Wadsworth Till (Willman and Frye, 1970). The Wadsworth Till, however, tends to be slightly more gravelly and less clayey than the Yorkville Till. The glacial till found beneath West Chicago Prairie underlies the outwash and appears to be more representative of the Wadsworth Till than the Yorkville Till.

Wetland Delineation Keys

Hydric and Aquic Soils

The identification of hydric soils allows for the delineation of wetland areas with intact vegetative communities as well as those that have been modified, such as by artificial drainage.

A hydric soil can be defined as a soil that is "saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part" (USDA-SCS, 1987). As such, they are wet enough that they can support hydrophytic vegetation.

There are several criteria used to identify hydric soils. These criteria, from the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (Fed. Interagency Comm. for Wetland Del., 1989), are outlined below.

1. All Histosols except Folistis.
2. Soils in Aquic suborders, Aquic subgroups, Albolls suborder, Salorthids great group, or Pell great groups of Vertisols that are:

- a) Somewhat poorly drained and have water table less than 0.5 feet from the surface for a significant period (usually a week or more) during the growing season, or
- b) poorly drained or very poorly drained and have either:
 - (1) water table at less than 1.0 foot from the surface for a significant period (usually a week or more) during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within 20 inches, or
 - (2) water table at less than 1.5 feet from the surface for a significant period (usually a week or more) during the growing season if permeability is less than 6.0 in/hr in any layer within 20 in, or
- 3. Soils that are ponded for long duration (7 days to 1 month) or very long duration (>1 month) during the growing season, or
- 4. Soils that are frequently flooded for long duration (7 days to 1 month) or very long duration (>1 month) during the growing season.

Differentiation of Organic and Mineral Soils

Organic soil materials and organic soils--

1. Are saturated with water for long periods or are artificially drained and, excluding live roots, (a) have 18% or more organic carbon if the mineral fraction is 60% or more clay, (b) have 12% or more organic carbon if the mineral fraction has no clay, or (c) have a proportional content of organic carbon between 12 and 18% if the clay content of the mineral fraction is between zero and 60%; or

2. Are never saturated with water for more than a few days and have 20% or more organic carbon (Soil Survey Staff, 1975).

Histosols are soils that--

1. Have organic soil materials that extend from the surface to one of the following:

a. A depth within 10 cm or less of a lithic or paralithic contact, provided the thickness of the organic soil materials is more than twice that of the mineral soil above the contact; or

2. Have organic materials that have an upper boundary within 40 cm of the surface and

a. Have one of the following thicknesses:

(1) 60 cm or more if three-fourths or more of the volume is moss fibers or the moist bulk density is <0.1 g per cubic centimeter (6.25 lbs per cubic foot);

(2) 40 cm or more if

(a) The organic soil material is saturated with water for long periods (>6 months) or is artificially drained; and

(b) The organic material consists of sapric or hemic materials or consists of fibric materials that are less than three-fourths moss fibers by volume and have a moist bulk density of 0.1 or more; and

b. Have organic soil materials that

(1) Do not have a mineral layer as much as 40 cm thick either at the surface or whose upper boundary is within a depth of 40 cm from the surface; and

(2) Do not have mineral layers, taken cumulatively, as thick as 40 cm within the upper 80 cm (Soil Survey Staff, 1975).

Moisture Regimes and Drainage Classes

Soils with an Aquic suborder are saturated throughout the profile for at least a few days during the year when the soil temperature is above biologic zero (5°C). This duration is necessary because dissolved oxygen must be absent in the profile. A soil classified as having an Aquic subgroup need only have the lower horizons saturated for at least a few days (Soil Survey Staff, 1975).

Drainage classes are used to identify the extent and rate to which water is removed from the soil. Physical soil characteristics, as well as the depth to groundwater, influence soil drainage. Hydric soils are somewhat poorly, poorly, or very poorly drained. Somewhat poorly drained soils have water removed slowly enough that the soil is wet for significant periods of time, but not always. These soils typically have some mottling below the A horizon (Soil Survey Staff, 1951).

Poorly drained soils are wet for long periods of time with the water table at or near the surface for a good portion of the year. Gray matrix and mottle colors are common in the lower A horizon or immediately below.

Very poorly drained soils have the water table at or near the surface all year. Ponding is frequent. These soils commonly have mucky surfaces, although they may or may not be classified as organic. Gleying typically occurs immediately below the A horizon with mottles present in the A.

Table 1 lists the occurrence of hydric soils in several northeastern Illinois counties.

Wetland Hydrology

"An area has wetland hydrology when saturated to the surface or inundated at some point in time during an average rainfall year, as defined below:

- 1) Saturation to the surface normally occurs when soils in the following natural drainage classes meet the following conditions:
 - A) In somewhat poorly drained mineral soils, the water table is less than 0.5 feet from the surface for usually one week or more during the growing season, or
 - B) In highly permeable, poorly drained or very poorly drained mineral soils, the water table is less than 1.0 feet from the surface for usually one week or more during the growing season, or
 - C) In low permeability, poorly drained or very poorly drained mineral soils, the water table is less than 1.5 feet from the surface for usually one week or more during the growing season, or

Table 1. Occurrence of Hydric Soils in Northeastern Illinois by Series

Series	Cook-DuPage	Kane	Lake	McHenry	Will
Ashkum	*		*	*	*
Bryce	*				*
Canisteo		*			
Drummer	*	*		*	*
Faxon	*	*			
Granby			*		
Gilford	*				
Harpster	*	*	*	*	*
Houghton	*	*	*	*	*
Joliet					*
Knight				*	
Lena		*		*	
Maumee					*
Milford	*	*			*
Millington		*		*	*
Millsdale					*
Montgomery			*		
Muskego	*				
Otter		*		*	
Pella			*		
Peotone	*	*	*	*	*
Rantoul					*
Romeo	*				*
Sawmill	*		*		*
Selma	*	*		*	
Thorp	*	*			
Walkill				*	
Washtenaw				*	
Will	*	*			*
Total No. of Series	14	13	8	12	15

SOURCE: USDA-SCS Soil Survey Data for Cook-DuPage, Kane, Lake, McHenry, and Will Counties, Illinois, and USDA-SCS Hydric Soils of the United States.

- D) In poorly drained or very poorly drained organic soils, the water table is usually at a depth where saturation to the surface occurs more than rarely. (Note: Organic soils that are cropped are often drained, yet the water table is closely managed to minimize oxidation of organic matter; these soils often retain their hydric characteristics and if so meet the wetland hydrology criterion.)
- 2) An area is inundated at some time if ponded or frequently flooded with surface water for one week or more during the growing season" (Fed. Interagency Comm. for Wetland Del., 1989).

Wetland Vegetation

Five groups of vascular plants are used for classifying plants as wetland or upland indicators. This "wetland indicator status" is based upon the frequency that the plant occurs in wetlands. These four groups are obligate wetland plants, facultative wetland plants, facultative plants, and facultative upland plants (Fed. Interagency Comm. for Wetland Del., 1989).

- 1) Obligate wetland plants (OBL) occur almost always in wetlands under natural conditions. The estimated probability of their occurring in wetlands is >99%.
- 2) Facultative wetland plants (FACW) usually occur in wetlands but are sometimes found outside wetland areas. The estimated probability of their occurrence in wetlands is 67-99%.
- 3) Facultative plants (FAC) have an equal chance of being found in a wetland as in a nonwetland. The estimated probability of their occurrence in a wetland is 34-66%.
- 4) Facultative upland plants (FACU) usually occur in nonwetlands. The estimated probability of their occurrence in a wetland is 1-33%.
- 5) Plants with a <1% probability of occurring in a wetland are obligate upland species (UPL).

A list is made in the field of the species identified in the wetland and their wetland status. The wetland status can be identified on National List of Plant Species That Occur in Wetlands published by the U.S. Fish and Wildlife Service

(Reed, 1988). Greater than 50% of the dominant plant species occurring in a wetland must be OBL, FACW, or FAC to meet the wetland criteria.

Soils of the West Chicago Prairie

The soils identified on the West Chicago Prairie are shown in Figure 3 (Mapes, 1979). Seven series were mapped by SCS staff on the parcel: Drummer (152), Fox (327), Mundelein (442), Zurich (696), Wauconda (697), Grays (698), and Houghton-Muskego, wet (1903). A brief description of these series is given below. The Drummer, Mundelein, Wauconda, and Grays series have been sampled and described in detail for the field tour. Table 8 lists selected physical and chemical properties for these soils.

The Fox series is classified as a fine-loamy over sandy or sandy skeletal, mixed, mesic Typic Hapludalf. It formed in 24 to 40 inches of loamy deposits over stratified sand and gravel outwash. Fox is well drained and has moderate permeability in the loamy material and rapid or very rapid permeability in the sand and gravel. It is commonly associated with the Casco and Dresden series. Slopes on this site are 2% to 5%.

Zurich formed in 24 to 40 inches of loess or silty material over stratified loamy outwash. It is classified as a fine-silty, mixed, mesic Typic Hapludalf. It is moderately well to well drained and has moderate permeability. Zurich is associated with the Aptakisic and Grays series. Slopes are 2% to 5%.

Houghton-Muskego, wet is an organic soil complex that is inundated virtually year-round. These soils are found in the drainageway through the site and have a slope of less than 1%. Although Figure 3 shows this complex to occupy the entire drainageway, only small pockets actually exist. Much of the drainageway consists of Drummer with a histic epipedon.

Houghton is classified as a euic, mesic Typic Medisaprist and has developed in greater than 51 inches of herbaceous material. It is very poorly drained and has moderately slow to moderately rapid permeability. Muskego is classified as a coprogenous, euic, mesic Limnic Medisaprist. It differs from Houghton in that it has formed in 16 to 51 inches of herbaceous material over sedimentary peat.

Field Tour Site Descriptions

Site 1

Grays: Fine-loamy, mixed, mesic Mollic Hapludalf (Inclusion)

Grays soils are found on outwash plains and lake plains of Wisconsin age. The soils formed in 24 to 40 inches of loess or silty material over medium-textured outwash. They are typically on 1% to 5% slopes. Grays is moderately well to well drained and permeability is moderate. It is commonly associated with the Wauconda, Zurich, and Drummer series. Grays is not identified as a hydric soil. Note the dominant brown color below the A horizon. Gray or grayish colors are not found to a depth 40 inches. This is an indication of a relatively deep seasonal high water table.

- A 0-8 inches; very dark gray (10YR 3/1) silt loam; moderate fine and very fine granular structure; friable; slightly acid.
- BA 8-14 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine subangular blocky structure; brown (10YR 4/3) continuous clay coatings; friable; slightly acid.
- 2Bt1 14-25 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium and fine subangular blocky structure; brown (10YR 4/3) continuous clay coatings; friable; neutral.
- 2Bt2 25-30 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; brown (10YR 4/3) continuous clay coatings; very dark gray (10YR 3/1) organic matter coatings; friable; slightly acid.
- 2Bt3 30-34 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; brown (10YR 4/3) continuous clay coatings; dark brown (10YR 3/3) organic matter coatings; friable; mildly alkaline.
- 2BC 34-40 inches; dark yellowish brown (10YR 4/4) loam; weak medium and coarse subangular blocky structure; brown (10YR 4/3) continuous clay coatings; dark brown (10YR 3/3) organic matter coatings; friable; moderately alkaline.
- 2C 40-60 inches; yellowish brown (10YR 5/4) and light grayish brown (10YR 6/2) silt loam; massive; common medium distinct yellowish brown (10YR 5/8) mottles; strongly alkaline.

Table 2. Flora of Site 1 Associated with the Grays Series.

Hydrophytic Species: 43%
 Native Quality: 3.43

Native Taxa: 23
 Native Index: 16.47

SCIENTIFIC NAME	COMMON NAME	INDIC STAT.
<i>Agrostis alba</i>	Redtop	FACW
<i>Allium cernuum</i>	Nodding Wild Onion	UPL
<i>Andropogon gerardi</i>	Big Bluestem Grass	FAC-
<i>Apocynum sibiricum</i>	Dogbane	FAC+
<i>Aster pilosus</i>	Hairy Aster	FACU+
<i>Carex normalis</i>	NCN	FACW
<i>Cirsium discolor</i>	Pasture Thistle	UPL
<i>Daucus carota</i>	Queen Anne's Lace	UPL
<i>Equisetum hyemale intermedium</i>	Smooth Scouring Rush	FACW
<i>Eupatorium altissimum</i>	Tall Boneset	FACU
<i>Eupatorium rugosum</i>	White Snakeroot	FACU
<i>Euphorbia corollata</i>	Flowering spurge	UPL
<i>Galium triflorum</i>	Sweet-scented Bedstraw	FACU+
<i>Monarda fistulosa</i>	Wild Bergamot	FACU
<i>Panicum virgatum</i>	Switch Grass	FAC+
<i>Phleum pratense</i>	Timothy	FACU
<i>Physalis heterophylla</i>	Clammy Ground Cherry	UPL
<i>Physalis subglabrata</i>	Tall Ground Cherry	UPL
<i>Poa compressa</i>	Canada Blue Grass	FAC-
<i>Quercus macrocarpa</i>	Bur Oak	FAC-
<i>Rhus typhina</i>	Staghorn Sumac	UPL
<i>Rubus allegheniensis</i>	Common Blackberry	FACU+
<i>Rubus occidentalis</i>	Black Raspberry	UPL
<i>Ruellia humilis</i>	Hairy Ruellia	FACU-
<i>Solidago altissima</i>	Tall Goldenrod	FACU
<i>Solidago graminifolia nuttallii</i>	Grass-leaved Goldenrod	FACW-
<i>Veronicastrum virginicum</i>	Culver's Root	FAC

Mundelein: Fine-silty, mixed, mesic Aquic Argiudoll

The Mundelein series developed in 24 to 40 inches of loess or silty material over stratified loamy outwash. The soil is typically found on level to gently sloping outwash plains. Slopes are generally less than 5%. Mundelein is somewhat poorly drained and has moderate to moderately slow permeability. It is not identified as a hydric soil. Note the brown colors with grayish coatings and mottles below 14 inches. This combination of colors classifies the soil as non-hydric, but it is approaching hydric soil conditions.

- A 0-14 inches; very dark gray (10YR 3/1) silt loam; moderate fine and very fine granular structure; friable; slightly acid.
- BA 14-20 inches; brown (10YR 4/3) silt loam; moderate fine subangular blocky structure; dark grayish brown (10YR 4/2) continuous clay coatings; friable; slightly acid.
- Bt1 20-27 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; dark grayish brown (10YR 4/2) continuous clay coatings; very dark gray (10YR 3/1) organic matter coatings; few fine distinct grayish brown (10YR 5/2) mottles; firm; slightly acid.
- 2Bt2 27-33 inches; brown (10YR 5/3) clay loam; weak medium subangular blocky structure; brown (10YR 4/3) continuous clay coatings; very dark gray (10YR 3/1) organic matter coatings; few fine distinct light grayish brown (10YR 6/2) and yellowish brown (10YR 5/6) mottles; firm; mildly alkaline.
- 2BC 33-38 inches; brown (10YR 5/3) loam; weak medium prismatic structure; brown (10YR 4/3) discontinuous clay coatings; common fine distinct light grayish brown (10YR 6/2) mottles; friable; strongly alkaline.
- 2C 38-60 inches; yellowish brown (10YR 5/6) stratified sandy loam and and silt loam; single grain and massive; common fine distinct light grayish brown (10YR 6/2) mottles; saturated.

Table 3. Flora of Site 1 Associated with the Mundelein Series.

Hydrophytic Species: 38%
 Native Quality: 3.00

Native Taxa: 23
 Native Index: 15.87

SCIENTIFIC NAME	COMMON NAME	INDIC STAT.
<i>Achillea millefolium</i>	Yarrow	FACU
<i>Agrimonia gryposepala</i>	Tall Agrimony	FACU+
<i>Allium cernuum</i>	Nodding Wild Onion	UPL
<i>Ambrosia artemisiifolia elatior</i>	Common Ragweed	FACU
<i>Andropogon gerardi</i>	Big Bluestem Grass	FAC-
<i>Aster pilosus</i>	Hairy Aster	FACU+
<i>Carex cristatella</i>	NCN	FACW+
<i>Cornus racemosa</i>	Gray Dogwood	FACW-
<i>Erigeron annuus</i>	Annual Fleabane	FAC-
<i>Eupatorium serotinum</i>	Late Boneset	FAC+
<i>Galium triflorum</i>	Sweet-Scented Bedstraw	FACU+
<i>Geum laciniatum trichocarpum</i>	Rough Avens	FACW
<i>Helianthus grosseserratus</i>	Sawtooth Sunflower	FACW-
<i>Liatris pycnostachya</i>	Prairie Blazing Star	FAC-
<i>Monarda fistulosa</i>	Wild Bergamot	FACU
<i>Oenothera biennis</i>	Common Evening Primrose	FACU
<i>Panicum virgatum</i>	Switch Grass	FAC+
<i>Prunus serotina</i>	Wild Black Cherry	FACU
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	FACW+
<i>Pyrus ioensis</i>	Iowa Crab	UPL
<i>Quercus velutina</i>	Black Oak	UPL
<i>Rubus occidentalis</i>	Black Raspberry	UPL
<i>Rudbeckia hirta</i>	Black-eyed Susan	FACU
<i>Smilacina stellata</i>	Starry Solomon's Plume	FAC-
<i>Solidago altissima</i>	Tall Goldenrod	FACU
<i>Solidago graminifolia nuttallii</i>	Grass-leaved Goldenrod	FACW-
<i>Sorghastrum nutans</i>	Indian Grass	FACU+
<i>Thalictrum revolutum</i>	Waxy Meadow Rue	FAC
<i>Vitis riparia</i>	Riverbank Grape	FACW-

Drummer: Fine-silty, mixed, mesic Typic Haplaquoll

Drummer is a poorly drained soil which has developed on nearly level or depressional outwash plains. Slopes are less than 2%. Drummer developed in 24 to 40 inches of loess or silty material over stratified Wisconsin age outwash on the West Chicago Prairie; however it is also identified in areas with deeper loess and silt deposits. It has moderate permeability and is identified as a hydric soil. Note the predominance of gray soil colors below the dark surface (>23 inches). These colors are strong indications that the soil is hydric.

- A1 0-10 inches; black (10YR 2/1) silt loam; moderate fine and very fine granular structure; friable; neutral.
- A2 10-16 inches; black (N 2/0) silt loam; moderate fine granular structure; friable; neutral.
- AB 16-23 inches; very dark gray (N 3/0) light silty clay loam; weak medium subangular blocky structure; firm; neutral.
- Bg1 23-27 inches; dark gray (N 4/0) light silty clay loam; weak fine prismatic structure; grayish brown (2.5Y 5/2) clay coatings; black (10YR 2/1) organic matter coatings; firm; mildly alkaline.
- Bg2 27-36 inches; gray (5Y 5/1) light silty clay loam; moderate fine prismatic structure; black (10YR 2/1) organic matter coatings; few fine prominent yellowish brown (10YR 5/6) mottles; firm; mildly alkaline.
- BCg 36-48 inches; gray (5Y 5/1) silty clay loam; weak medium prismatic structure; common fine faint light gray (5Y 6/1), common fine prominent yellowish brown (10YR 5/6), and few fine distinct greenish gray (5BG 5/1) mottles; very firm; mildly alkaline.
- Cg 48-60 inches; light gray (5Y 6/1) silty clay loam; massive; very firm; mildly alkaline.

Table 4. Flora of Site 1 Associated with the Drummer Series at the Edge of the Sedge Meadow.

Hydrophytic Species: 78%
 Native Quality: 4.44

Native Species: 18
 Native Index: 18.86

SCIENTIFIC NAME	COMMON NAME	INDIC STAT.
<i>Allium cernuum</i>	Nodding Wild Onion	UPL
<i>Andropogon gerardi</i>	Big Bluestem Grass	FAC-
<i>Aster novae-angliae</i>	New England Aster	FACW
<i>Aster simplex</i>	Panicled Aster	FACW
<i>Carex stricta</i>	NCN	OBL
<i>Cirsium discolor</i>	Pasture Thistle	UPL
<i>Cornus racemosa</i>	Gray Dogwood	FACW-
<i>Lathyrus palustris myrtifolius</i>	Slender Marsh Vetchling	FACW
<i>Lycopus americanus</i>	Common Water Horehound	OBL
<i>Monarda fistulosa</i>	Wild Bergamot	FACU
<i>Oxypolis rigidior</i>	Cowbane	OBL
<i>Panicum virgatum</i>	Switch Grass	FAC+
<i>Phlox glaberrima interior</i>	Marsh Phlox	FACW
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	FACW+
<i>Solidago altissima</i>	Tall Goldenrod	FACU
<i>Spartina pectinata</i>	Prairie Cord Grass	FACW+
<i>Stachys palustris homotricha</i>	Woundwort	OBL
<i>Thalictrum revolutum</i>	Waxy Meadow Rue	FAC

Table 5. Flora of Site 1 Associated with the Drummer Series in the Center of the Sedge Meadow.

Hydrophytic Species: 100%
 Native Quality: 5.04

Native Taxa: 24
 Native Index: 24.70

SCIENTIFIC NAME	COMMON NAME	INDIC STAT.
<i>Asclepias incarnata</i>	Swamp Milkweed	OBL
<i>Aster novae-angliae</i>	New England Aster	FACW
<i>Aster simplex</i>	Panicled Aster	FACW
<i>Calamagrostis canadensis</i>	Blue Joint Grass	OBL
<i>Campanula aparinoides</i>	Marsh Bellflower	OBL
<i>Carex stricta</i>	NCN	OBL
<i>Cornus racemosa</i>	Gray Dogwood	FACW-
<i>Eleocharis calva</i>	NCN	OBL
<i>Epilobium leptophyllum</i>	Fen Willow Herb	OBL
<i>Eupatorium perfoliatum</i>	Common Bobeset	FACW+
<i>Galium obtusum</i>	Wild Madder	FACW+
<i>Iris virginica shrevei</i>	Blue Flag	OBL
<i>Lathyrus palustris myrtifolius</i>	Slender Marsh Vetchling	FACW
<i>Leersia oryzoides</i>	Rice Cut Grass	OBL
<i>Lycopus americanus</i>	Common Water Horehound	OBL
<i>Lycopus uniflorus</i>	Northern Bugle Weed	OBL
<i>Lythrum alatum</i>	Winged Loosestrife	OBL
<i>Oxypolis rigidior</i>	Cowbane	OBL
<i>Phlox glaberrima interior</i>	Marsh Phlox	FACW
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	FACW+
<i>Scutellaria epilobiifolia</i>	Marsh Skullcap	OBL
<i>Solidago graminifolia nuttallii</i>	Grass-leaved Goldenrod	FACW-
<i>Spartina pectinata</i>	Prairie Cord Grass	FACW+
<i>Verbena hastata</i>	Blue Vervain	FACW+

Site 2

Wauconda: Fine, mixed, mesic Udollic Ochraqualf (Inclusion)

Wauconda has formed in 24 to 40 inches of loess or silty material over stratified loamy outwash. It is typically found on nearly level outwash plains or lake plains. Slopes are commonly less than 5%. Wauconda is somewhat poorly drained and is not identified as a hydric soil. The brown colors with grayish coatings and mottles below 9 inches are an indication, however, that the soil is approaching hydric. It is moderately permeable. The series is typically associated with the Grays and Mundelein soil series.

- A 0-9 inches; black (10YR 2/1) silt loam; moderate fine granular structure; friable; medium acid.
- BE 9-15 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate medium subangular blocky structure; black (10YR 2/1) organic matter coatings; friable; medium acid.
- Bt1 15-23 inches; brown (10YR 4/3) silty clay loam; strong medium subangular blocky structure; dark grayish brown (10YR 4/2) continuous clay coatings; few fine distinct grayish brown (10YR 5/2) and yellowish brown (10YR 5/6) mottles; very firm; slightly acid.
- Bt2 23-31 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky structure; dark grayish brown (10YR 4/2) continuous clay coatings; black (10YR 2/1) organic matter coatings; common fine distinct light grayish brown (10YR 6/2) and gray (10YR 5/1) mottles; firm; neutral.
- BC 31-40 inches; light brownish gray (2.5Y 6/2) light silty clay loam; weak medium prismatic structure; grayish brown (2.5Y 5/2) discontinuous clay coatings; common fine distinct yellowish brown (10YR 5/6) mottles; firm; mildly alkaline.
- 2C 40-60 inches; light brownish gray (2.5Y 6/2) and brown (10YR 5/3) stratified sandy loam and silt loam; single grain and massive; common fine distinct yellowish brown (10YR 5/6) mottles; moderately alkaline.

Site 2 of the field tour represents a location where water table, soil moisture, and soil temperature monitoring have been established by the Forest Preserve District and the Morton Arboretum. It is the upland end of a north-south transect along which monitoring is being done. This transect begins in a mesic prairie (A1) and ends at this upland savanna (A41).

Water table data are presented graphically in Figure 4 for the monitoring locations along Transect A from September 1989 through mid-September 1990. No monitoring was done from November 1989 to March 1990 because the water surfaces were frozen. The trends shown in Figure 4 indicate a jump in elevations from November 1989 to March 1990 of about 1 to 1.5 feet for the sites and then a general lowering of the water table throughout the 1990 growing season.

An overview of selected ecosystems along Transect A is presented in Figure 5. The wet prairie (A27) is the "driest" of these three ecosystems and the marsh (A12) is the wettest.

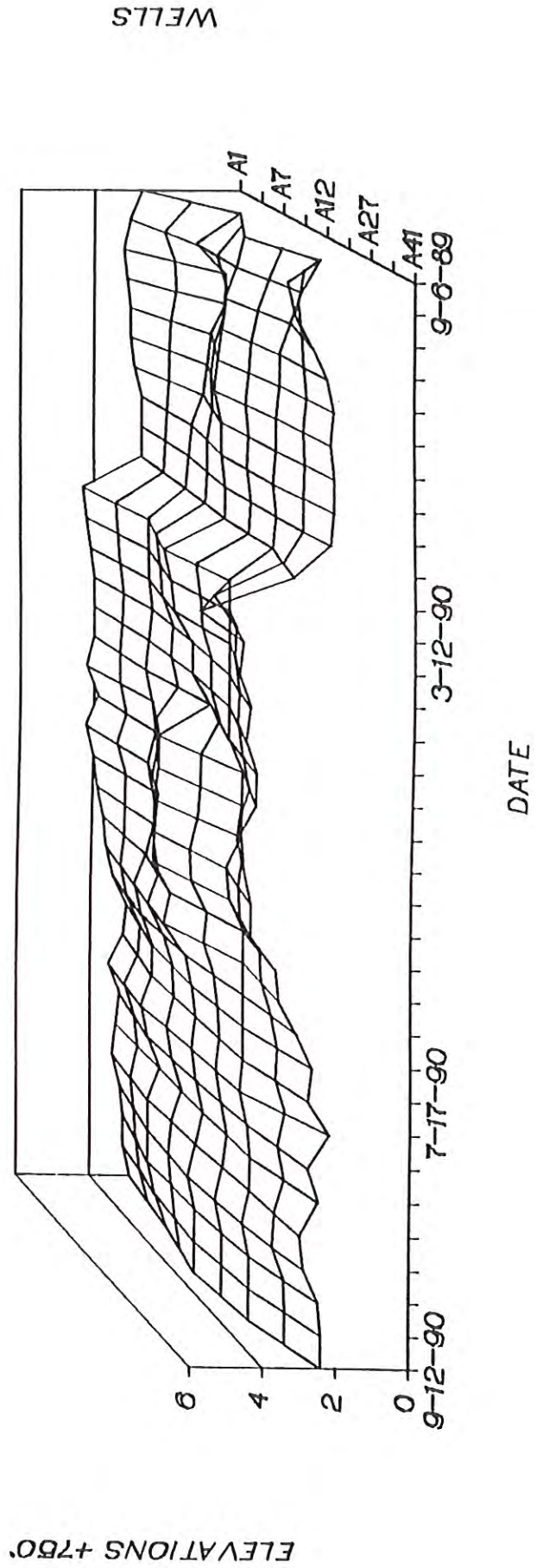
The wet prairie (A27) has had a water table generally between 1.0 and 1.5 feet below ground level in 1990. This is somewhat lower in relation to the ground elevation compared to the sedge meadow (A7), although the soils at both locations are hydric. The sedge meadow has had relatively consistent water table levels at about 0.3 feet below ground elevation. A rainy period in June allowed the water table to rise to the soil surface only briefly.

The marsh location (A12) water elevation has dropped slightly from March to August. It has been above the ground elevation throughout 1990, unlike 1989, an indication of the above normal precipitation year. The June wet period rose the water table to its peak in 1990.

Figure 6 is a comparison of the actual topographic elevations at the West Chicago Prairie monitoring locations to a topographic diagram based upon wetland index ratings. Wetland index ratings provide a method of classifying an ecosystem as to whether it is a wetland based upon the vegetation within it. The wetland index ratings of the West Chicago Prairie flora provided a fine representation of wetlands and uplands on the preserve.

The flora of site 2 of the field tour is presented in Table 6.

Figure 4. Water Table Relationships of the West Chicago Prairie.



WELLS

DATE

ELEVATIONS +750'

Figure 5. Water Table Relationships of Selected Ecosystems at the West Chicago Prairie.

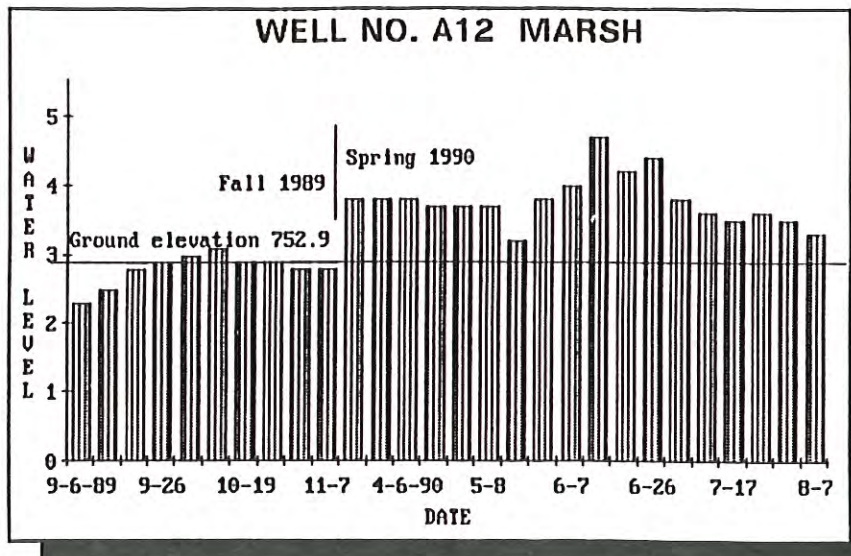
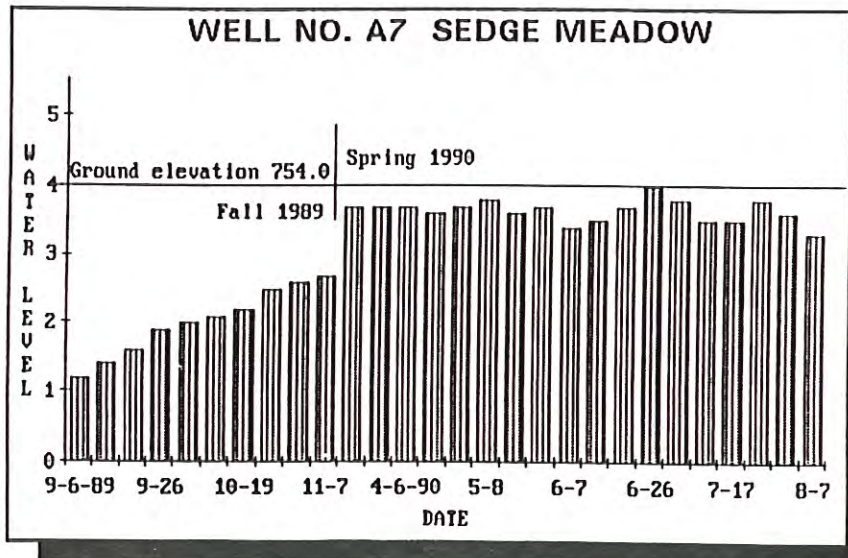
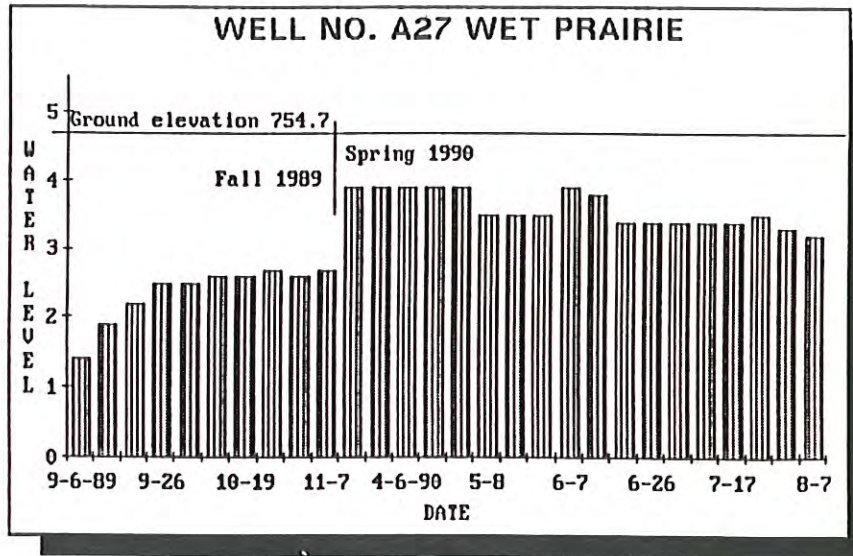
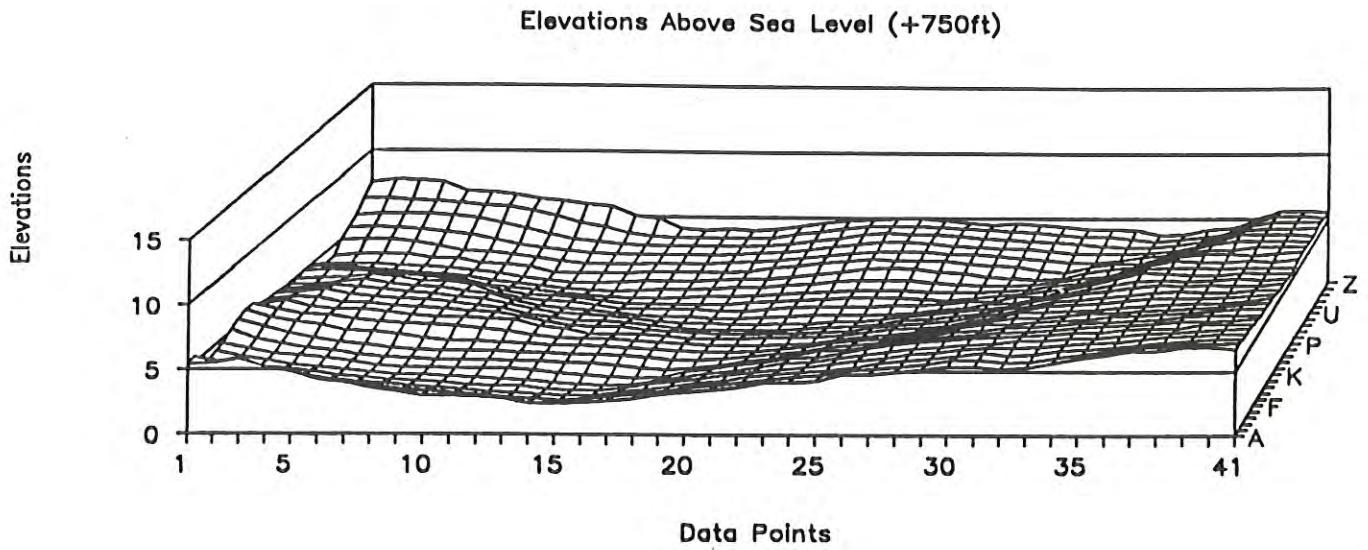


Figure 6. Topographic Relationship to Wetland Vegetation at the West Chicago Prairie.

WEST CHICAGO PRAIRIE WETLAND STUDY PROJECT

Wetland Topography (actual)



Wetland Topography (by vegetation)

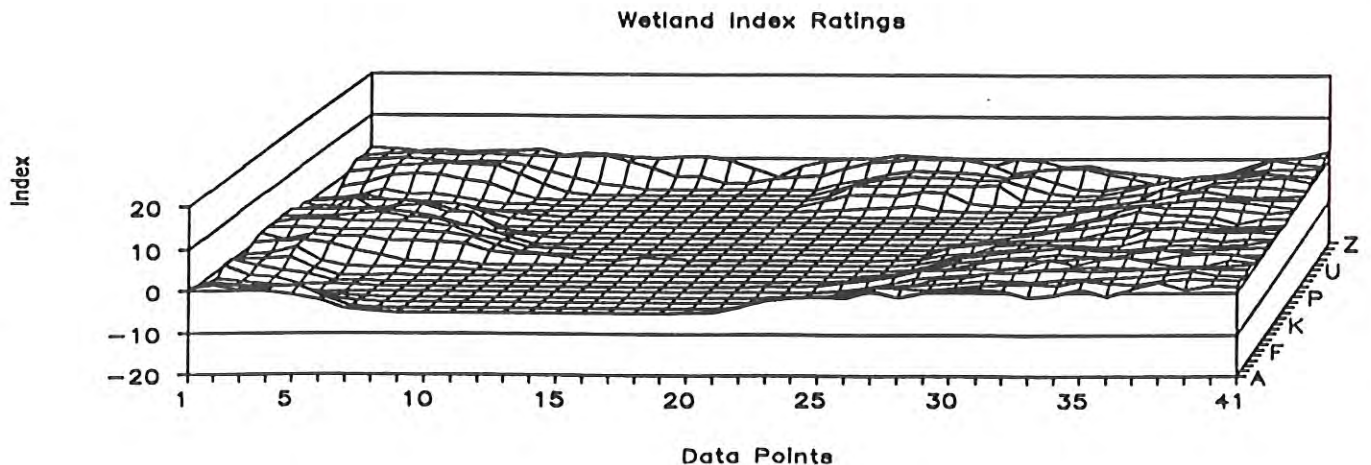


Table 6. Flora of Site 2 Associated with the Wauconda Series.

Hydrophytic Species: 48%
 Native Quality: 3.40

Native Species: 97
 Native Index: 33.51

SCIENTIFIC NAME	COMMON NAME	INDIC STAT.
<i>Agrimonia gryposepala</i>	Tall Agrimony	FACU+
<i>Allium cernuum</i>	Nodding Wild Onion	UPL
<i>Andropogon gerardi</i>	Big Bluestem Grass	FAC-
<i>Anemone virginiana</i>	Tall Thimbleweed	[UPL]
<i>Anemonella thalictroides</i>	Rue Anemone	UPL
<i>Apocynum sibiricum</i>	Dogbane	FAC+
<i>Aquilegia canadensis</i>	Wild Columbine	FAC-
<i>Arabis glabra</i>	Tower Mustard	UPL
<i>Aster ericoides</i>	Heather Aster	FACU-
<i>Aster lateriflorus</i>	Side-flowering Aster	FACW-
<i>Aster pilosus</i>	Hairy Aster	FACU+
<i>Aster sagittifolius drummondii</i>	Drummond's Aster	UPL
<i>Campanula americana</i>	Tall Bellflower	FAC
<i>Carex amphibola turgida</i>	Gray Sedge	UPL
<i>Carex jamesii</i>	Grass Sedge	UPL
<i>Carex laxiflora</i>	Wood Sedge	FAC
<i>Carex normalis</i>	NCN	FACW
<i>Carex pensylvanica</i>	Pennsylvania Sedge	UPL
<i>Carex rosea</i>	NCN	UPL
<i>Circaea quadrisulcata canadensis</i>	Enchanter's Nightshade	FACU
<i>Cirsium discolor</i>	Pasture Thistle	UPL
<i>Claytonia virginica</i>	Spring Beauty	FACU
<i>Convolvulus speium</i>	Hedge Bindweed	FAC
<i>Coreopsis tripteris</i>	Tall Coreopsis	FAC
<i>Cornus racemosa</i>	Gray Dogwood	FACW-
<i>Desmodium canescens</i>	Hoary Tick Trefoil	UPL
<i>Dryopteris spinulosa</i>	Spinulose Shield Fern	FACW-
<i>Ellisia nyctelea</i>	Aunt Lucy	FAC+
<i>Elymus canadensis</i>	Canada Wild Rye	FAC-
<i>Erigeron annuus</i>	Annual Fleabane	FAC-
<i>Erigeron canadensis</i>	Horseweed	FAC-
<i>Erigeron philadelphicus</i>	Marsh Fleabane	FACW
<i>Erythronium albidum</i>	White Trout Lily	UPL
<i>Eupatorium altissimum</i>	Tall Boneset	FACU
<i>Eupatorium rugosum</i>	White Snakeroot	FACU
<i>Eupatorium serotinum</i>	Late Boneset	FAC+
<i>Euphorbia corollata</i>	Flowering Spurge	UPL
<i>Fragaria virginiana</i>	Wild Strawberry	FAC-
<i>Fraxinus pensylvanica subint.</i>	Green Ash	FACW
<i>Galium aparine</i>	Annual Bedstraw	FACU
<i>Galium triflorum</i>	Sweet-Scented Bedstraw	FACU+
<i>Geranium maculatum</i>	Wild Geranium	FACU

Table 6. Continued.

SCIENTIFIC NAME	COMMON NAME	INDIC STAT.
<i>Geum canadense</i>	White Avens	FAC
<i>Glyceria septentrionalis</i>	Floating Manna Grass	OBL
<i>Hackelia virginiana</i>	Stickweed	FAC-
<i>Lactuca floridana</i>	Blue Lettuce	FAC-
<i>Lobelia spicata</i>	Pale Spiked Lobelia	FAC
<i>Monarda fistulosa</i>	Wild Bergamot	FACU
<i>Muhlenbergia frondosa</i>	Common Satin Grass	FACW
<i>Muhlenbergia schreberi</i>	Nimblewill	FAC
<i>Oenothera biennis</i>	Common Evening Primrose	FACU
<i>Panicum implicatum</i>	Hairy Panic Grass	FAC
<i>Panicum virgatum</i>	Switch Grass	FAC+
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	FAC-
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	FAC-
<i>Physalis subglabrata</i>	Tall Ground Cherry	UPL
<i>Podophyllum peltatum</i>	May Apple	FACU
<i>Polemonium reptans</i>	Jacob's Ladder	FAC
<i>Polygonatum canaliculatum</i>	Smooth Solomon's Seal	FACU
<i>Potentilla simplex</i>	Common cinquefoil	FACU-
<i>Prunus serotina</i>	Wild Black Cherry	FACU
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	FACW+
<i>Pyrus ioensis</i>	Iowa Crab	UPL
<i>Quercus alba</i>	White Oak	FACU
<i>Quercus ellipsoidalis</i>	Hill's Oak	UPL
<i>Quercus macrocarpa</i>	Bur Oak	FAC-
<i>Quercus velutina</i>	Black Oak	UPL
<i>Ranunculus abortivus</i>	Small-Flowered Buttercup	FACW-
<i>Ratibida pinnata</i>	Yellow Coneflower	UPL
<i>Rhus radicans</i>	Poison Ivy	UPL
<i>Rosa blanda</i>	Early Wild Rose	FACU
<i>Rosa setigera</i>	Illinois Rose	FACU+
<i>Rubus allegheniensis</i>	Common Blackberry	FACU+
<i>Rubus occidentalis</i>	Black Raspberry	UPL
<i>Rudbeckia triloba</i>	Brown-eyed Susan	FAC-
<i>Sambucus canadensis</i>	Elderberry	FACW-
<i>Sanicula canadensis</i>	Canadian Black Snakeroot	FACU+
<i>Sanicula gregaria</i>	Clustered Black Snakeroot	FAC+
<i>Silphium integrifolium</i>	Rosin Weed	UPL
<i>Smilacina racemosa</i>	Feathery Solomon's Plume	FACU
<i>Smilacina stellata</i>	Starry Solomon's Plume	FAC-
<i>Smilax ecirrhata</i>	Upright Carrion Flower	UPL
<i>Smilax lasioneura</i>	Common Carrion Flower	UPL
<i>Solidago altissima</i>	Tall Goldenrod	FACU
<i>Solidago graminifolia media</i>	Grass-leaved Goldenrod	UPL
<i>Sporobolus neglectus</i>	Small Rush Grass	UPL
<i>Teucrium canadense</i>	Germander	FACW-
<i>Thalictrum revolutum</i>	Waxy Meadow Rue	FAC

Table 6. Continued.

SCIENTIFIC NAME	COMMON NAME	INDIC STAT.
<i>Tovara virginiana</i>	Woodland Knotweed	FAC
<i>Trillium recurvatum</i>	Red Trillium	FACU-
<i>Triosteum perfoliatum</i>	Late Hrose Gentian	UPL
<i>Verbena urticifolia</i>	White Vervain	FAC+
<i>Vernonia altissima</i>	Tall Ironweed	FAC
<i>Viburnum rafinesquianum</i>	Downy Arrow-wood	UPL
<i>Viola papilionacea</i>	Common Blue Violet	FAC
<i>Viola sororia</i>	Hairy Wood Violet	FAC-
<i>Vitis riparia</i>	Riverbank Grape	FACW-

Site 3

Drummer: Fine-silty, mixed, mesic Typic Haplaquoll

Drummer is a poorly drained soil which has developed on nearly level or depressional outwash plains. Slopes are less than 2%. Drummer developed in 24 to 40 inches of loess or silty material over stratified Wisconsin age outwash on the West Chicago Prairie; however it is also identified in areas with deeper loess and silt deposits. It has moderate permeability and is identified as a hydric soil.

- A 0-13 inches; black (N 2/0) silt loam; moderate fine and medium granular structure; friable.
- BA 13-17 inches; very dark gray (N 3/0) silty clay loam; weak medium subangular blocky structure; dark grayish brown (10YR 4/2) continuous clay coatings; friable.
- Bg1 17-29 inches; gray (5Y 5/1) and light olive brown (2.5Y 5/6) light silty clay loam; weak medium prismatic structure; black (10YR 2/1) organic matter coatings; common fine distinct greenish gray (5G 6/1) mottles; firm.
- BCg 29-37 inches; gray (5Y 5/1) and light olive brown (2.5Y 5/6) light silty clay loam; weak medium prismatic structure; black (10YR 2/1) organic matter coatings; common fine distinct greenish gray (5G 5/1) mottles; very firm.
- Cg 37-60 inches; gray (5Y 5/1) and light olive brown (2.5Y 5/6) light silty clay loam; massive; black (10YR 2/1) organic matter coatings; common fine distinct greenish gray (5G 5/1) mottles; very firm.

Palms: Loamy, mixed, euic, mesic Terric Medisaprist

The Palms series consists of very poorly drained soils formed in organic deposits 16-51 inches thick overlying loamy materials. Slopes are 0-2%. This profile was taken from Pratt's Wayne Woods Forest Preserve approximately 5 miles north of West Chicago Prairie. This soil lies in a drainageway marsh just west of the West Chicago Moraine. The soil mineral soil catena at this site is similar to that present at the West Chicago Prairie.

- Oa1 0-6 inches; black (N 2/0) broken face and rubbed sapric material; moderate fine and very fine granular structure; mildly alkaline; less than 5% fibers.
- Oa2 6-11 inches; black (N 2/0) broken face and rubbed sapric material; moderate fine and medium subangular blocky structure; neutral; about 5% fibers.
- Oa3 11-20 inches; black (5YR 2/1) broken face and dark reddish brown (5YR 2/2) rubbed sapric material; weak medium subangular blocky structure; few fine distinct yellowish red (5YR 5/6) mottles; slightly acid; about 10% fibers.
- Oa4 20-36 inches; very dark gray (5YR 3/1) broken face and very dark gray (5YR 2.5/1) rubbed sapric material; weak medium subangular blocky structure; slightly acid; about 10% fibers.
- Oa5 36-48 inches; very dark gray (5YR 3/1) broken face and very dark gray (5YR 2.5/1) rubbed sapric materials; massive; slightly acid; 10% fibers.
- 2Cg 48-60 inches; very dark gray (5YR 3/1) and dark reddish brown (5YR 2/2) silt loam; massive; neutral.

Table 7. Flora of Site 3 Associated with Drummer and Organic Soils.

Hydrophytic Species: 82%
 Native Quality: 5.15

Native Species: 34
 Native Index: 30.01

SCIENTIFIC NAME	COMMON NAME	INDIC STAT.
<i>Andropogon gerardi</i>	Big Bluestem Grass	FAC-
<i>Aster azureus</i>	Sky-Blue Aster	UPL
<i>Aster novae-angliae</i>	New England Aster	FACW
<i>Aster simplex</i>	Panicled Aster	FACW
<i>Campanula aparinoides</i>	Marsh Bellflower	OBL
<i>Carex buxbaumii</i>	NCN	OBL
<i>Carex stricta</i>	NCN	OBL
<i>Carex tetanica</i>	NCN	FACW
<i>Cornus racemosa</i>	Gray Dogwood	FACW-
<i>Epilobium coloratum</i>	Cinnamon Willow Herb	OBL
<i>Galium obtusum</i>	Wild Madder	FACW+
<i>Gentiana andrewsii</i>	Bottle Gentian	FACW
<i>Helenium autumnale</i>	Sneezeweed	FACW+
<i>Iris virginica shrevei</i>	Blue Flag	OBL
<i>Lathyrus palustris myrtifolius</i>	Slender Marsh Vetchling	FACW
<i>Liatris pycnostachya</i>	Prairie Blazing Star	FAC-
<i>Lycopus americanus</i>	Common Water Horehound	OBL
<i>Lycopus uniflorus</i>	Northern Bugle Weed	OBL
<i>Lythrum alatum</i>	Winged Loosestrife	OBL
<i>Muhlenbergia mexicana</i>	Leafy Satin Grass	FACW
<i>Panicum virgatum</i>	Switch Grass	FAC+
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	FACW+
<i>Ratibida pinnata</i>	Yellow Coneflower	UPL
<i>Rudbeckia hirta</i>	Black-eyed Susan	FACU
<i>Salix gracilis textoris</i>	Petioled Willow	FACW+
<i>Solidago altissima</i>	Tall Goldenrod	FACU
<i>Solidago gigantea</i>	Late Goldenrod	FACW
<i>Solidago graminifolia media</i>	Grass-Leaved Goldenrod	UPL
<i>Solidago riddellii</i>	Riddell's Goldenrod	OBL
<i>Sorghastrum nutans</i>	Indian Grass	FACU+
<i>Spartina pectinata</i>	Prairie Cord Grass	FACW+
<i>Stachys palustris homotricha</i>	Woundwort	OBL
<i>Thalictrum revolutum</i>	Waxy Meadow Rue	FAC
<i>Veronicastrum virginicum</i>	Culver's Root	FAC

Table 8. Selected physical and chemical properties of West Chicago Prairie soils.

Grays: Mollic Hapludalf

	SAND	SILT	CLAY	TEXT	OC	pH
A	11.95	71.12	16.93	SiL	1.7	6.4
BA	7.44	62.08	30.48	SiCL	0.5	6.5
2Bt1	29.46	36.12	34.42	CL		6.6
2Bt2	37.75	30.09	32.16	CL		6.3
2Bt3	16.05	49.79	34.16	SiCL		7.6
2BC	44.81	28.89	28.30	CL		8.0
2C	8.25	78.33	13.42	SiL		8.5

Mundelein: Aquic Argiudoll

	SAND	SILT	CLAY	TEXT	OC	pH
A	12.08	70.98	16.94	SiL	2.1	6.2
BA	11.65	64.37	23.98	SiL	1.1	6.2
Bt1	14.99	46.11	38.90	SiCL		6.3
2Bt2	46.45	26.78	26.77	CL		7.4
2BC	51.43	40.06	8.51	L		8.5
2C						

Drummer: Typic Haplaquoll

	SAND	SILT	CLAY	TEXT	OC	pH
A1	4.96	86.70	8.34	Si	6.3	6.9
A2	6.25	75.65	18.10	SiL	4.7	7.2
AB	5.14	67.20	27.66	SiCL	2.7	7.3
Bg1	3.02	59.03	37.95	SiCL		7.4
Bg2	2.94	59.10	37.96	SiCL		7.6
BCg	3.18	57.12	39.70	SiCL		7.5
Cg						

Wauconda: Udollic Ochraqualf

	SAND	SILT	CLAY	TEXT	OC	pH
A	14.24	73.60	12.16	SiL	3.7	5.8
BE	6.30	61.81	31.89	SiCL		5.9
Bt1	3.04	57.85	39.11	SiCL		6.1
Bt2	2.11	61.00	36.89	SiCL		6.6
BC	9.61	61.42	28.97	SiCL		7.7
2C	27.81	51.41	20.78	SiL		8.0

Table 9. Selected chemical data for the organic soil from Pratt's-Wayne Woods.

Palms: Terric Medisaprist

	OM	OC	pH
Oa1	33.6	19.5	7.4
Oa2	38.7	22.4	7.1
Oa3	36.4	21.1	6.5
Oa4	32.8	19.0	6.3
Oa5	32.4	18.8	6.4
2Cg	12.7	7.3	7.0

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