PLANTING # 104
2012 PLANTING HISTORY
Holland Planting
Prepared by Cody Considine 11/30/2012

55 Acres Total Dry: 8 acres Dry Mesic: 47

Mesic: ~1 acre within Dry Mesic

## **Site Conditions**

Location: T22N R10E ¼ of which is in Section 17 and ¾ of it in Section 16

GPS: 41°54'00.26"N 89°21'35.09"W Elevation: 770'-725'

Lee County (1/4) and Ogle County (3/4)

Average rainfall per year: 38"

Average monthly rainfall average: 1.57" in February to 4.9" in June

## **Soil Types**

According to the Web Soil Survey for Ogle and Lee Counties, soils include:

Soils for both the Dry Mesic and Dry areas of planting—55 acres

87B Dickson sandy loam, 2 to 5 percent slopes. 1.5% of planting

290B2 Warsaw silt loam, 2 to 5 percent slopes, eroded. 4% of planting

397D Boone loamy fine sand, 7 to 15 percent slopes. 3% of planting

440B Jasper loam 2 to 5 percent slopes. 9.6% of planting

440C2 Jasper loam, 5 to 10 percent slopes, eroded. 3% of planting

622B Wyanet silt loam, 2 to 5 percent slopes. 7.8% of planting

727A Waukee loam, 0 to 2 percent slopes. 14% of planting

727B Waukee loam, 2 to 5 percent slopes. 55% of planting

919D Rodman-Fox complex, 6 to 12 percent slopes. 3% of planting

<sup>\*</sup>All of the soils have been under intensive agriculture. Above are basic descriptions, a complete soil test is needed to determine specific soil characteristics. For more additional information see Soil Web Survey website: http://websoilsurvey.nrcs.usda.gov/app/

#### Topography

The general topography of the 2012 planting is flat to gently sloping. The elevation is higher on the west and gently slopes towards the east. The dry hills are easily distinguishable as they gently rise across the planting. There is a drainage channel that may have been man made or formed as a result of continual erosion from the row crop tillage practices.

## **Agricultural History**

The planting site has been intensively row cropped for many decades. Corn and soy bean the main crop. More recently, at least within the last 5 years, the field has been planted to corn each year.

#### **Site Preparations**

Corn harvested in late September. The 2012 growing season was very dry. The corn did not produce much so the farmer harvested his field early and some for silage.

- 1. The outer half of the planting was mowed with a batwing. This mowing was thought to help the corn stubble burn better. Half of the planting was not mowed.
- 2. Burned corn stubble in early November. The corn stubble did not burn very well.
- 3. Field was harrowed 2 days before planting by Paul Bane. The crust was broken making the soil "open" for planting.
- 4. The dry areas of the planting were staked off with t-posts.

## Planting the seed

## Dry Hills (4 hills) – 8 acres

Weather and Planting conditions: dry weather for the most part, unseasonably warm.

Date Planted: 11/12/12

The four dry hills were planted by Cody Considine using the Kubota tractor with Vicon pendulum seeder. The first pass was planted at the 28 setting on the Vicon. I opened the Vicon seeder to 38 on the second pass. There was about ½ a seeder full of seed so I planted the remainder seed on the top most part of each hill. Total planting time took about 8 hrs. See seed list below for specific species and planting rates on the dry hills.

## Dry Mesic - 57 acres

Weather and Planting conditions: unseasonably warm and dry.

Date Planted: 11/12/12 11/13/12

The 57 acres were planted by Heather Marshall, Paul Bane, David Crady, Emily Berg, and Cody Considine. When I finished planting the dry hills I help with the dry mesic area. We had three antique drop seeders. Since the planting was oddly shaped, it was divided into 2 units. The east/west unit was about 37 acres and the north/south unit was about 18 acres both including the dry hills. The crew started planting with the seeders set to "full open". One the second pass, the seeders were closed down to about "3/4 open" because of fear that we would not have enough seed to do a full second pass. After the second pass, we still had enough seed to fill all of the seeders. We then spread out further apart and tried to cover the majority of the planting. Blaze orange traffic cones and white seed buckets were used to mark where the seeders have been. The third driver placed a cone on the outer edge of their planter every 100 yds. to mark their extent. On the next pass, the first driver in the line would follow the cones and plant right up to them. The blaze orange cones were superior to the seed buckets since they could

be run over and not break. There were two people in the first and last vehicle. Two people in these vehicles helped out a lot. The passenger could retrieve the cones thus saving time for the driver from getting and out of the vehicle. The planters were shut to the "off" position when we came upon the dry hills. By driving through the dry hills enabled us to keep our lines straight and plant faster. We had to get out and shut each seeder off when we came to each one.

## Step IN

The rarest and least amounts of conservative species we have on the preserve were planted by the "step in" method. These species were all upland and therefore only planted on the four dry hills. Cody, Paul Bane, Heather Marshall, and David Crady planted the mix. Total planting time took approximately 5 hours. Not included in the species mix table below was a donated sandwich bag of Prairie violets donated to us from Larry Creekmur. Heather planted these on the four hills.

Porcupine grass: We only planted porcupine grass on the dry hills. Porcupine grass was planted by different techniques on each hill. The South East Hill was planted by placing each spike of grass into the soil. This was the most labor intensive and took the longest. The North West Hill was planted by simply throwing the seeds in the air, broadcasting them on the hill. The South West Hill was planted both by throwing seeds in the air and placing individual seed spikes in the soil. The North East hill was planted by broadcasting milled porcupine grass in the air across the hill.

Plums and Hazelnut: These seeds were planted by hand with dibble bars and others broadcast randomly throughout the planting.

#### Overseed

The entire 2011 planting was overseeded with 199.8 lbs. Canada rye and 228 lbs. of white bap. Paul Bane and David Crady used the drop seeders to make one pass across the planting. Each pass did not cover every square foot of the planting. Planters were spaced 10-15' from each other during planting.

The wet sections of the planting were overseeded with 124 lbs. of wet species. See the 2012 seed harvest excel sheet or the 2012 planting history for a complete list of the species that were planted.

#### **Planting Mixes**

There were essentially two mixes calculated for the 55 acres, Dry and Dry Mesic. The mixes were developed with species appropriate for the expected habitat types located within the planting. The total number of species this year was down this year which was due to the hot and dry growing season. Some plants simply did not produce seed and some did not produce a lot of seed so we decided not to collect those species. Although the richness was down, many conservative species harvest records were broken.

**Dry Mix:** 83 species **Dry Mesic Mix:** 94 species

**Total species for the planting: 118** 

		Mix	Mix	
		Dry Mesic	Dry 8	
		47 acres	acres	Step In Total
SCIENTIFIC NAME	COMMON NAME	lbs./acre	lbs./acre	lbs.
Agrostis hymenalis	Tickle Grass	0.005	0.031	
Allium cernuum	Nodding Wild Onion	0.111	0.069	
Amorpha canescens	Leadplant	2.181	2.225	
Schizachyrium scoparium	Little Bluestem	0.000	0.000	
Angelica grandifoilia	Great Angelica	0.000	0.000	
Anemone canadensis	Meadow Anemone	0.000	0.000	
Anemone cylindrica	Thimbleweed	0.000	1.613	
	Alexander's Angelica; Great			
Angelica atropurpurea	Angelica	0.000	0.000	
Antennaria neglecta	Field Cat's Foot	0.001	0.006	
Antennaria plantaginifolia	Pussy Toes (Everlasting)	0.317	0.301	
Aristida longiseta	3 awn grass	0.129	0.125	
Artemisia caudata (campestris)	Beach Wormwood	0.191	0.125	
Asclepias amplexicaulis	Sand Milkweed	0.000	0.000	
Asclepias incarnata	Swamp Milkweed	0.000	0.000	
Asclepias verticillata	Whorled Milkweed	0.000	0.000	
Aster azureus (oolentangiensis)	Sky-blue Aster	0.285	0.250	
Aster ericoides (prostratus)	Heath Aster	0.622	0.375	
Aster laevis	Smooth (Blue) Aster	0.527	0.250	
Aster linariifolius	Stiff Aster (Flax-Leaved)	0.000	0.388	
Aster novae-angliae	New England Aster	0.000	0.000	
Aster oblongifolius	Aromatic Aster	0.000	0.444	
Aster ptarmicoides	White Aster ( Stiff Aster)	0.000	0.181	
Aster sericeus	Silky Aster	0.499	1.000	
Aster umbellatus	Flat-topped Aster	0.000	0.000	
Astragalus canadensis	Canadian Milk Vetch	0.223	0.000	
Baptisia leucantha	White Wild Indigo	6.043	2.000	
Baptisia leucophaea	Cream Wild Indigo	0.080	2.000	
Bouteloua curtipendula	Side-Oats Grama	0.056	0.500	
Carex bicknellii	Copper-shouldered oval Sedge	1.569	2.000	
Carex medeii	Meads sedge	0.000	0.000	0.01
	Sand Bracted Sedge			
Carex muhlenbergii (enervis)	(Muhlenberg's)	0.021	0.025	
Cassia fasciculata	Partridge Pea	0.000	0.000	
Cassia hebecarpa	Wild Senna	0.001	0.000	
Castilleja sessiliflora **	Downy Yellow Painted Cup	0.023	0.250	
Ceanothus americanus	New Jersey Tea	0.179	0.000	
Cephalanthus occidentalus	Buttonbush	0.000	0.000	

Chrysopsis camporum				
(Heterotheca)	Golden Prairie Aster	0.030	0.025	
Cirsium hillii *** (pumilum)	Hill's Thistle	0.000	0.000	0.01
Comandra umbellata				
(richardsiana)	False Toadflax	0.000	0.001	
Coreopsis lanceolata	Sand Coreopsis	0.004	0.481	
Coreopsis palmata	Prairie Coreopsis	0.965	1.000	
Coreopsis tripteris	Tall Coreopsis	0.136	0.000	
Corylus americana	American Hazelnut	0.000	0.000	
Cyperus filiculmis	Slender Sand Sedge	0.000	0.038	
Danthonia spictata	Poverty Oat Grass	0.000	0.100	
Desmodium canadense	Showy Tick Trefoil	0.000	0.000	
Desmodium illinoense	III. Tick Trefoil	0.000	0.794	
Dodecatheon meadia	Shooting Star	0.000	0.000	2.25
Echinacea pallida	Pale Purple Coneflower	11.344	12.500	
Elymus canadensis	Prairie Wild Rye	0.502	0.250	
Eragrostis spectabilis	Purple Love Grass	0.066	0.025	
Erigeron strigosus	Daisy Fleabane	0.000	0.000	
Eryngium yuccifolium	Rattlesnake Master	1.962	0.938	
Eupatorium perfoliatum	Boneset	0.230	0.000	
Eupatorium purpureum	Purple Joe-Pye Weed	0.000	0.000	
Euphorbia corollata	Flowering Spurge	0.639	1.000	
Gaura biennis pitcheri (longiflora)	Common Gaura	0.184	0.031	
Gentiana (alba) flavida	Cream Gentian	0.021	0.000	
Gentiana (Gentianopsis) crinita	Fringed Gentian	0.000	0.131	
Gentiana andrewsii	Bottle (or Closed) Gentian	0.106	0.000	
Gentiana purberulenta	Prairie Gentian	0.000	0.000	0.1
	Prairie Smoke (Long-plumed			
Geum triflorum	Purple Avens)	0.000	0.000	0.01
	Sweet Everlasting (Old-Field			
Gnaphalium obtusifolium	Balsam)	0.033	0.025	
Habenaria leucophea	E. Prairie Fringed Orchid	0.000	0.000	
Helianthemum canadense	Common Rockrose (Frostweed)	0.000	0.213	
Helianthus occidentalis	Western Sunflower; Naked S.	0.851	1.000	
Helianthus rigidus (laetiflorus)	Prairie Sunflower	0.050	0.000	
Heliopsis helianthoides	False Sunflower; " Ox-eye "	0.070	0.000	
Heuchera richardsonii grayana	Rough Heuchera; Alum root	0.000	0.081	
Hieracium gronovii	Hairy Hawkweed	0.000	0.001	
Hypoxis hirsuta	Yellow Star Grass	0.000	0.000	0.01
Juncus interior	Inland Rush	0.074	0.025	
Koeleria cristata (macrantha)	Prairie June Grass	1.109	1.000	
Kuhnia (Brickellia) eupatoroides	Falsa Danasa:	0.500	0.435	
corymbulosa	False Boneset	0.599	0.125	
Leachea minor		0.000	0.000	

Lechea stricta	Bushy Pinweed	0.000	0.000	
Lechea tenuifolia	Slender-Leaved Pinweed	0.000	0.119	
Lechea villosa (mucronata)	Hairy Pinweed	0.000	0.000	
Lespedeza capitata	Round-headed Bush Clover	1.727	0.250	
Lespedeza leptostachya ****	Prairie Bush Clover	0.000	0.000	
	Rough Blazing-star (Rough			
Liatris aspera	Gayfeather)	0.300	6.500	
Liatris cylindracea	Dwarf Blazingstar	0.000	0.001	
	Tall Gayfeather; Prairie Blazing			
Liatris pycnostachya	Star	0.174	0.000	
Lithospermum canescens	Hoary Puccoon Fringed (Narrow-leaved)	0.000	0.000	0.01
Lithospermum incisum	Puccoon	0.000	0.000	0.01
Lobelia siphilitica	Great Lobelia	0.001	0.000	0.01
Lobelia spicata	Pale-spike Lobelia	0.000	0.000	
Lupinus perennis	Wild Lupine	0.000	0.000	
Monarda fistulosa	Wild Bergamot	0.154	0.000	
Monarda punctata villicualis	Horse Mint	0.000	0.156	
Napaea dioica	Glade Mallow	0.000	0.000	
Oenothera biennis canescens	Common Evening Primrose	0.109	0.000	
Oenothera clelandii	Common Evening Frimose	0.103	0.000	
(rhombipetala)	Sand Evening Primrose	0.000	0.000	
Onosmodium hispidissimum	Marbleseed	0.085	0.000	
Oxalis violacea	Violet Wood-sorrel	0.000	0.000	
Panicum leibergii	Prairie Panic Grass	0.000	0.000	
Panicum oligosanthes scribneria	Scribner's Panic Grass	0.465	1.000	
Panicum perlongum	Long-stalked Panic Grass	0.000	0.000	
Panicum villosissimum	White-Haired Panic Grass	0.000	0.000	
Parthenium integrifolium	Wild Quinine (Feverfew)	3.998	2.625	
Pedicularis lancelota	Fen (Swamp) Betony; Lousewort	0.000	0.000	
Penstemon digitalis	Foxglove Beardtongue	0.393	0.000	
Penstemon hirsutus	Hairy Beard tongue	0.000	0.016	
Petalostemum (Dalea) candidum	White Prairie Clover	1.413	1.000	
Petalostemum (Dalea) purpureum	Purple Prairie Clover	3.603	2.625	
Phlox bifida	Sand Phlox	0.000	0.000	0.1
Phlox pilosa	Prairie phlox	0.000	0.000	0.2
Physocarpus opulifolius	Ninebark	0.017	0.000	
Polytaenia nuttallii	Prairie Parsley	0.000	0.019	
Potentilla arguta	Prairie Cinquefoil	0.336	0.025	
Prunus americana	Wild Plum	0.000	0.000	
Pycnanthemum tenuifolium	Narrow-leaved Mountain Mint	0.250	0.063	
Pycnanthemum virginianum	Mountain mint (Prairie Hyssop)	0.000	0.000	
Ratibida pinnata	Yellow Coneflower	0.096	0.000	
Rhus aromatica	fragrant sumac	0.029	0.000	

Rosa carolina	Pasture Rose	0.219	0.125	
Rudbeckia hirta	Black-eyed Susan	0.298	0.063	
Rudbeckia subtomentosa	Sweet Blackeyed Susan	0.000	0.000	
Ruellia humilis	Wild Petunia	0.000	0.000	0.01
Senecio plattensis	Prairie Ragwort	0.003	0.000	
Silphium integrifolium	Rosinweed	1.102	0.000	
Silphium laciniatum	Compass plant	2.885	0.000	
Silphium terebinthaceum	Prairie Dock	1.036	0.000	
Sisyrinchium albidum	Common Blue-eyed Grass	0.038	0.125	
Solidago (Euthamia) graminifolia	,			
nuttallii	Grass-leaved Goldenrod	1.806	2.000	
Solidago (Euthamia)				
gymnospermoides	Viscid Grass-leaved Goldenrod	0.048	0.000	
Solidago missouriensis fasciculata	Missouri Goldenrod	0.807	0.250	
Solidago nemoralis	Gray Goldenrod; Oldfield	1.509	2.500	
Solidago speciosa	Showy Goldenrod	0.112	0.000	
Sorghastrum nutans	Indian Grass	0.000	0.000	
Spiraea alba	Meadowsweet	0.000	0.000	
Spiranthes lacera	Slender Ladies Tresses	0.000	0.000	0.01
Sporobolus heterolepis	Prairie Dropseed	0.000	0.000	
Stachys palustris homotricha	Woundwort	0.000	0.000	
Stipa spartea	Porcupine Grass	0.077	0.000	
Symplocarpus foetidus	Skunk Cabbage	0.000	0.000	
Talinum rugospermum ***	Sand Fameflower	0.000	0.000	
Tephrosia virginiana	Goat's Rue	0.119	1.000	
	American Germander (Wood			
Teucrium canadense	Sage)	0.000	0.000	
Teucrium occidentale	Gray Germander	0.000	0.000	
Thalictrum dasycarpum	Purple Meadow Rue	0.000	0.000	
Tradescantia ohiensis	Ohio Spiderwort	1.673	2.000	
Trillium recurvatum	Red (Prairie) Trillium	0.000	0.000	
Triosteum aurantiacum	Early Horse Gentian (Orange-	0.000	0.000	
mosteum aurantiacum	fruited) Horse Gentian	0.000	0.000	
Triosteum perfoliatum	(Feverwort)(Tinker's Weed)	0.069	0.000	
Verbena hastata	Blue Vervain	0.000	0.000	
Verbena stricta	Hoary Vervain	0.094	0.000	
Verbena urticifolia	Hairy White Vervain	0.007	0.000	
Vernonia fasciculata	Common Ironweed	0.000	0.000	
Veronicastrum virginicum	Culver's Root	0.000	0.000	
Viburnum lentago	Nannyberry Viburnum	0.000	0.000	
Viburnum prunifolium	Black Haw	0.000	0.000	
Viola fimbriatula	Sand Violet	0.000	0.000	
Viola lanceolata	Lance-leaved Violet	0.000	0.000	
viola lanccolata	Lance reaved violet	0.000	0.000	

Viola pedata lineariloba	Birdsfoot Violet	0.000	0.000	0.3
Viola pedatifida	Prairie Violet	0.000	0.000	
Viola sagittata	Arrow-leaved violet	0.000	0.000	0.01
Viola sororia (pratincola) (				
papilionacea)	Common blue Violet	0.000	0.000	
Viola subsinuata (triloba)	Lobed Blue Violet	0.000	0.000	
Wulfenia bullii *** (Besseya)	Kittentails	0.000	0.000	
Zizia aptera	Heart-leaved Meadow Parsnip	0.000	0.269	
Zizia aurea	Golden Alexanders	1.394	0.000	
little blue mixed with il ticktrefoil		0.223	0.063	
Little blue with cut stems no pure seed in 2012		2.083	2.250	
Thimble weed mixed with little blue		0.890	1.250	
Northern Drop seed cut with stems		1.797	2.275	
bushy, hairy pin weed and frost weed		0.016	0.050	
sweet ever, lia asp, rose, purple lov	e,	0.045		

3.04\*

61.68191489

60.23375

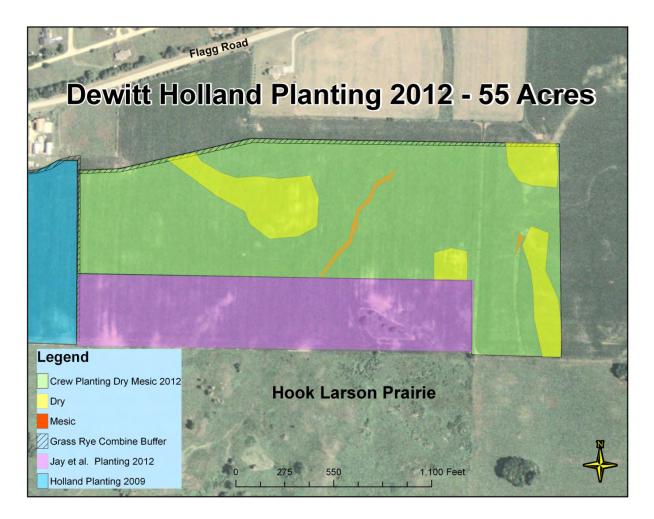
# **TOTAL Pounds/Acre Planted**

\*Step in mix totaled 3lbs and was planted across 8 acres for .375lbs/acre

Excel spread sheet saved in T:\Nachusa Project\Stewardship\SEEDS\seed harvest\2012

Seven mesic species, totaling 20 lbs. were planted on the drainage channel which totaled less than 3 acres. Species included: Veronicastrum virginicum, Verbena hastata, Spiraea alba, Rudbeckia hirta, Pycnanthemum virginianum, Gentiana andrewsii, and Gentiana crinita. The Dry Mesic mix was planted on the drainage channel. This mesic mix was planted by Cody with Kubota Vicon seeder after the dry mesic mix was planted.

## Map:



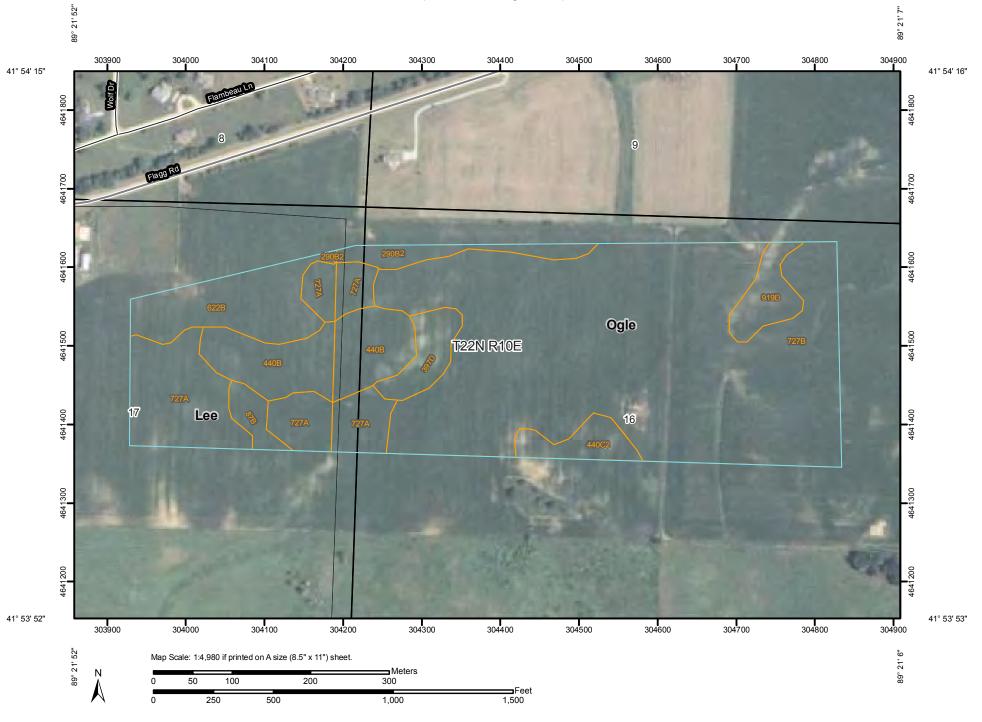
Map saved in T:\Nachusa Project\GIS Projects\Maps as jpg or pdf\Plantings



## **Lessons Learned**

Planting with three drop seeders was great. However, it helps if the first driver and third driver have a 2<sup>nd</sup> person with them to help with cones. Two people makes the job much easier improves the overall planting technique. We could have used more orange safety cones. I think if we had six more for a total of 12, we wouldn't have had to worry about running over a seed bucket.

We started out with the seeder "full open" and maybe should have started them at "3/4 open". Concentric circles do not work well when planting large prairies. The best is to go to one end, turn around, and go back.



#### MAP LEGEND

#### Area of Interest (AOI)

Area of Interest (AOI)

#### Soils

Soil Map Units

#### **Special Point Features**

Blowout

Borrow Pit

Clay Spot

Closed Depression

X Gravel Pit

.. Gravelly Spot

Landfill

∧ Lava Flow

علن Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

+ Saline Spot

"." Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Spoil Area

Stony Spot

#### $\alpha$

Very Stony Spot

Wet Spot

Other

#### **Special Line Features**

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Gully

Short Steep Slope

Other

#### **Political Features**

Counties

0

PLSS Township and Range

Cities

PLSS Section

#### **Water Features**



Water

Streams and Canals

#### Transportation



Rails



Interstate Highways



**US Routes** 



Major Roads



Local Roads

#### MAP INFORMATION

Map Scale: 1:4,980 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov

Coordinate System: UTM Zone 16N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lee County, Illinois Survey Area Data: Version 8, Jan 20, 2012

Soil Survey Area: Ogle County, Illinois Survey Area Data: Version 9, Jan 20, 2012

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Date(s) aerial images were photographed: 6/20/2007

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# **Map Unit Legend**

Lee County, Illinois (IL103)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
87B	Dickinson sandy loam, 2 to 5 percent slopes	0.8	1.4%
290B2	Warsaw silt loam, 2 to 5 percent slopes, eroded	0.0	0.1%
440B	Jasper loam, 2 to 5 percent slopes	2.9	4.9%
622B	Wyanet silt loam, 2 to 5 percent slopes	4.2	7.3%
727A	Waukee loam, 0 to 2 percent slopes	6.2	10.8%
Subtotals for Soil Survey	y Area	14.2	24.5%
Totals for Area of Interes	st	57.7	100.0%

Ogle County, Illinois (IL141)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
290B2	Warsaw silt loam, 2 to 5 percent slopes, eroded	1.4	2.4%
397D	Boone loamy fine sand, 7 to 15 percent slopes	1.5	2.7%
440B	Jasper loam, 2 to 5 percent slopes	2.3	4.1%
440C2	Jasper loam, 5 to 10 percent slopes, eroded	1.4	2.4%
727A	Waukee loam, 0 to 2 percent slopes	2.1	3.6%
727B	Waukee loam, 2 to 5 percent slopes	33.2	57.6%
919D	Rodman-Fox complex, 6 to 12 percent slopes	1.5	2.7%
Subtotals for Soil Survey Area		43.5	75.5%
Totals for Area of Interest		57.7	100.0%