

PLANTING 134

2021 Planting History

ROUTE 2 MRCP HILL SITE

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Introduction

This planting was done by The Nature Conservancy's Nachusa Grasslands hired seasonal crew. See photo below. Some crew went back to college and two more crew were hired in the fall to work with

Anna and Matt to get the job done. Nearly a ton of seed from 192 species were hand collected all summer through the fall. The seed was milled at the Nachusa seed barn, with various mixes of seed made. The seed was then planted at this site and at a planting we did at Franklin Creek Natural Area.



Site Conditions

General Location – 1-mile South of Grand Detour Bridge on Eastern edge of Route 2

GPS: 41.882035 -89.427670

Acreage: 18

Elevation: 716-740 ft

County: Ogle

Soil Types

According to the Web Soil Survey for the planting area, soil types include:

Soil Type	Acres in AOI	Percent of AOI
La Hogue Loam, 0 to 2% slopes	2.6	14.6%
Boone Loamy Fine Sand, 15 to 35% slopes	0.6	3.5%
Whalan Loam, 2 to 5% slopes	4.4	24.5%
Martinsville Silt Loam, 2 to 5% slopes	6.4	35.4%

Eleva Fine Sandy Loam, 7 to 15% slopes	3.6	20.0%
Eleva Fine Sandy Loam 15 to 35% slopes	0.4	2.1%
Total	18.0	100.0%

Table 1: Soil types present within the planting. Source: NRCS Soil Web Survey. Refer to Map A that shows the location of the soil types within the planting.

Topography

The MRCP Hill Site has a varied topography. To the North there is a bare and sandy hilltop beginning along the main East-West two track. Further south, there is a smaller hill that is again barren and sandy. Along the western edge of the planting there is a ditch running along Route 2 with some drainage and lower wet areas within the planting. The South-Eastern edge of the planting has another low spot consisting of some wet areas. To the North and North-East of the planting there are various hills with wooded areas.

Agricultural History

This site has been under an agricultural management system for seemingly decades. The soil structure has been broken and seems to have massive structure. Upon inspection of the site some of the areas have damage due to soil compaction along the Western edge. Within the hills, erosional gullies have formed due to loss of soil structure and bare soil becoming susceptible to erosion. Large stones within the planting have scratches related to tillage implements. Surrounding the planting, the woodlands seem to have been left without any forestry or timber management as the understory was closed due to overcrowding and Honeysuckle. It will be an incredible journey for this site to recover.

Site Preparations

The site preparations began the week of November 1st and continued until the first day of planting on November 4th. Site preparations began online as the Crew had used the USDA Soil Survey to gauge an idea as to what the hydrology, soil texture, and topography were like. The next step was the application of Google Earth Pro to create a color-coded map to classify areas needed per seed type (Dry, Dry-mesic, Mesic, Wet). A trip to the site was made after the seed-type classifications were decided upon in order to make sure the computer model worked with the physical properties found on site. Minor changes were made to adjust for some topography and unforeseen shading due to the South-Western wooded and shaded border. Seed-type area classifications were marked via flags and a cruise around the perimeter of the site was conducted to clear litter and debris. The site did not require any mowing as the soybean residue was easy to drive through and plant over. Aside from removing a few medium sized boulders, there was no landscaping, scraping, or dozing at this site. The seed mixes were created November 3rd and were decided upon by Crew Leaders Matt Nugent and Anna Scheidel. Decisions were based upon working knowledge of plants. The seed mixes were then hand mixed by crew via pitchfork, weighed, sorted, and loaded onto the livestock trailer for transport.

Planting the Seed

Planting began November 4th and was completed on November 8th. Some surplus step-in seeds were planted on November 18th.

The weather was modest during the initial planting: sunny, no precipitation, low winds, and around 40 degrees. The final round of step-in seeds was planted on the 18th and involved strong winds of 20 mph and windchill.

Planting began on the morning of Thursday November 4th and was made possible with the aid of Bill and Susan Kleiman, Paul Mellen, and the Crew. The small loader tractor with forks was used to load and then unload the seeders onto trailers. Afterwards, the tractor itself was loaded onto a trailer and along with the White, "Z", Silver, MRCP, and Dump trucks were transported to the site. The premixed seed barrels were previously loaded onto the livestock trailer and as a convoy we all took off to the Hill Site. The field entrance on the Eastern edge of Route 2 was used as our entry point and a staging area for parked vehicles was made on the North Eastern most corner near the logging equipment. Upon arrival of the site at roughly 10:00 am, the seeders were attached to the White, Silver and Z trucks and the crew was left to begin. Matt Nugent and Matthew Toggler were together in the lead truck, Anna Scheidel followed along in the middle, and Veronica Silva drove the rear truck. Working together with radios Matthew and Veronica dropped occasional sight flags to keep the convoy running smooth. This pattern held true for all of the plantings

Planting Mixes

Over the 2021 season, the crew handpicked in total 1,766.104 pounds of seed made up of 192 different species. The crew created a Dry, Dry-Mesic, Mesic, Wet, and Woodland Mix.

Dry Seed Mix

This Mix was divided into two dry areas totaling 1.5 acre. The smaller 0.5 acres were hand planted by all four crew members with 38 pounds of seed. This involved arm-width transects and took about 20 minutes. In order to cover the larger 1 acre on the hill, concentric circles were created with occasional sight flags dropped as the trucks and seeders made two passes. The first pass with the seeders was again set to 75% closed and then opened to between 75-100% open. Both of the coverings together took roughly 45 minutes to disperse the 91.8 pounds of seed. Seeders that were not empty after the second and final pass did random circles within flag markers until empty. The second parcel took roughly 45 minutes.

Dry Mesic Seed Mix

The Dry-Mesic Seed Mix was the largest weighing in at 760 pounds. The Dry-Mesic parcel included 14.5 of the planting and followed the same configuration of drivers. The convoy started on the East boundary of the planting and went West continuing in the "down and back" transect pattern. When the convoy came upon the dry hill parcel the seeders were closed and then reopened after passage to continue West. The entire first covering was completed on the first day of planting November 4th. On Friday, November 5th, the planting continued, and the final covering was finished mid-morning. The seeders for the first covering were set to 75% closed and then for the second covering was set to 75% open. After the second and final covering any seeder with seed drove randomly.

Mesic Seed Mix

The Mesic Seed Mix covered the 2.6 acres twice via use of “down and back” transects. A total of 165.55 pounds of mesic seed was used. This parcel took roughly 45 minutes. For the first covering of the parcel the seeders were set to 75% closed and were then opened to 75-100% open on the second and final covering. Any seeders with seed left did random transects within the flag markers until empty.

Wet Seed Mix

At this particular site none of the Wet Seed Mix was utilized.

Canada Rye Border

The Rye Border consisted of 5 seed barrels at about 125 total pounds of seed. The border was 3 seeder widths wide and encircled the entirety of the planting edge. The three seeders made 3 trips around the perimeter with the seeders opened at roughly 30%, 50%, and then opened to full 100%. The rye border had some setbacks as the seed did not fall as smoothly as the other mixes and continued to bridge. After the Rye Border was completed, the crew had reorganized and returned to the Headquarters having finished the bulk of the planting.

Step-In Species

The Step-In Mix was planted on Monday, November 8th. The crew began by planting Burr Oak acorns and Hazelnuts along the perimeter, tossing many as they encircled the planting. The Dry step-in mix was split between both dry parcels while the dry mesic and mesic step-in mixes were planted in two main strips. No wet step-in seed was used at this site. See Map C for Details. Atop both dry hills near boulders a few Prickly Pear Cacti were hand planted and marked by flags. In this planting we used Dry, Dry-Mesic, and Mesic seed mixes.

Step-In Seeds		
Scientific Name	Common Name	Seed Mix Type
<i>Anemone canadensis</i>	Meadow Anemone D Dm	Dry, Dry-Mesic
<i>Antennaria neglecta</i>	Woolly Cats Foot D	Dry
<i>Aristida purpurascens</i>	Purple Arrow Feather DM	Dry-Mesic
<i>Asclepias tuberosa</i>	Butterfly Weed D Dm M	Dry, Dry-Mesic, Mesic
<i>Bouteloua hirsuta</i>	Mustache Grass	Dry
<i>Camassia scilloides</i>	Wild Hyacinth	Mesic
<i>Chelone glabra</i>	Turtle Head	Wet
<i>Cirsium hillii</i>	Hill's Thistle	Dry-Mesic, Mesic
<i>Desmanthus illinoensis</i>	Illinois Bundle Flower	Mesic
<i>Froelichia floridana</i>	Plains snake-cotton	Dry
<i>Geum triflorum</i>	Prairie Smoke	Dry-Mesic
<i>Houstonia longifolia</i>	Long-leaved Bluets	Dry
<i>Hypoxis hirsute</i>	Yellow Star grass	Mesic
<i>Iris virginica var. shrevei</i>	Blue Flag Iris	Wet
<i>Krigia biflora</i>	False Dandelion	Dry
<i>Krigia virginica</i>	Dwarf Dandelion	Dry
<i>Liatris cylindracea</i>	Cylindrical Blazing Star	Dry-Mesic

<i>Lilium michiganense</i>	Michigan Lilly	Wet
<i>Linum sulcatum</i>	Yellow Flax	Dry
<i>Lithospermum canescens</i>	Hoary Puccoon	Dry
<i>Lobelia spicata</i>	Pale Spiked Lobelia	Mesic
<i>Mimulus ringens</i>	Monkey Flower	Mesic, Wet
<i>Nuttallanthus canadensis</i>	Blue Toadflax	Dry
<i>Oenothera biennis</i>	Common Evening Primrose	Dry, Dry-Mesic, Mesic
<i>Oenothera clelandii</i>	Sand evening Primrose	Dry
<i>Oligoneuron album</i>	Stiff Aster	Dry, Dry-Mesic
<i>Penstemon grandiflorus</i>	Large Flowered Beardtongue	Dry, Dry-Mesic
<i>Phemeranthus rugospermus</i>	Fame Flower	Dry
<i>Phlox bifida</i>	Sand Phlox	Dry
<i>Phlox glaberrima</i>	Marsh Phlox	Mesic, Wet
<i>Phlox pilosa</i>	Sand Prairie Phlox	Dry-Mesic
<i>Physocarpus opulifolius</i>	Ninebark	Mesic
<i>Pulsatilla patens subsp. multifida</i>	Pasque Flower	Dry
<i>Quercus macrocarpa</i>	Bur oak	Dry-Mesic, Mesic, Wet
<i>Rhexia virginica</i>	Virginia Meadow Beauty	Wet
<i>Ruellia humilis</i>	Prairie Petunia	Dry-Mesic
<i>Scutellaria parvula</i>	Small Skullcap	Dry-Mesic
<i>Silene antirrhina</i>	Sleepy Catchfly	Dry
<i>Spirea alba</i>	Meadowsweet	Mesic
<i>Viola pedata var. lineariloba</i>	Birds Foot Violet	Dry
<i>Zizia aptera</i>	Heart-leaved Alexanders	Dry-Mesic
Panic Grass Mix	N/A	Mesic

Table 2: List of species in various step-in mixes.

Species Diversity				
Dry	Dry Mesic	Mesic	Wet	Woodland
68	97	99	49	22

Table 4: Showing number of species in each mix.

Seed Species Mix

SCIENTIFIC NAME	COMMON NAME	Dry	Dry Mesic	Mesic	Wet	Woodland	Total lbs
<i>Agalinis purpurea</i>	purple false foxglove				0.770		0.770
<i>Agalinis tenuifolia</i>	slender false foxglove				2.551		2.551
<i>Agastache scrophulariifolia</i>	purple giant hyssop		0.702	0.433		0.330	1.464
<i>Agrimonia parviflora</i>	swamp agrimony				2.123		2.123
<i>Allium canadense</i>	wild onion		0.090			0.090	
<i>Allium cernuum</i>	nodding wild onion		0.720	1.083	0.363		0.180
<i>Allium tricoccum</i>	wild leek					0.008	0.008

<i>Amorpha canescens</i>	lead plant	1.000	10.000	5.000			16.050
<i>Amorpha fruticosa</i>	indigo bush				2.145		2.145
<i>Amphicarpaea bracteata</i>	upland hog peanut					0.004	0.004
<i>Anemone canadensis</i>	meadow anemone		0.103	0.103			0.206
<i>Anemone cylindrica</i>	thimbleweed	0.400	1.500	1.500			3.393
<i>Angelica atropurpurea</i>	great angelica			4.000	30.000		34.633
<i>Antennaria neglecta</i>	woolly cats' foot	0.038					0.038
<i>Antennaria plantaginifolia</i>	pussytoes	1.000	9.000	9.000			19.650
<i>Apocynum cannabinum</i>	hairy dogbane		1.300	2.300	1.000		4.650
<i>Arisaema triphyllum</i>	jack-in-the-pulpit					0.042	0.042
<i>Aristida purpurascens</i>	purple arrow feather		0.014				0.014
<i>Arnoglossum atriplicifolium</i>	pale indian plantain		0.850	0.850			1.695
<i>Arnoglossum plantagineum</i>	prairie indian plantain		0.320	0.650	0.320		1.323
<i>Artemisia campestris subsp. caudata</i>	beach wormwood	4.584	7.000				11.584
<i>Asclepias incarnata</i>	swamp milkweed			0.270	0.270		0.552
<i>Asclepias syriaca</i>	common milkweed	4.850	4.425	4.425			13.700
<i>Asclepias tuberosa</i>	butterfly weed	0.005					0.005
<i>Asclepias verticillata</i>	whorled milkweed	0.800	0.800				1.623
<i>Astragalus canadensis</i>	canadian milkvetch	0.500	7.000	3.000			10.408
<i>Aureolaria grandiflora var. pulchra</i>	yellow false foxglove					3.178	3.78
<i>Baptisia lactea</i>	white wild indigo	3.000	24.000	24.000			51.000
<i>Baptisia leucophaea</i>	cream wild indigo		1.751	1.751			3.522
<i>Besseyia bullii</i>	kitten tails	0.075	0.075				0.150
<i>Bidens comosa</i>	straw-stemmed tickseed			0.100	0.760		0.860
<i>Boltonia asteroides</i>	false aster			2.000	5.070		7.070
<i>Bouteloua curtipendula</i>	side-oats grama	0.820	0.820				1.644
<i>Bouteloua hirsuta</i>	hairy grama	0.128					0.128
<i>Brickellia eupatorioides var. corymbulosa</i>	false boneset	2.500	7.000	5.300			14.800
<i>Bromus kalmii</i>	prairie brome	5.000	39.000	22.300			67.250
<i>Calamagrostis canadensis</i>	blue joint grass			0.800	1.680		2.487
<i>Caltha palustris</i>	marsh marigold				0.133		0.133

<i>Carex bicknellii</i>	copper-shouldered oval sedge		0.043	0.043			0.085
<i>Carex frankii</i>	bristly cattail sedge			0.375	1.125		1.583
<i>Carex stipata</i>	common fox sedge			1.150	1.150		2.350
<i>Castilleja sessiliflora</i>	downy yellow painted cup	0.323	0.323				0.646
<i>Ceanothus americanus</i>	new jersey tea	0.300	0.300	0.300			0.906
<i>Cephalanthus occidentalis</i>	buttonbush				5.537		5.537
<i>Chamaecrista nictitans</i>	lesser partridge pea		0.001				0.001
<i>Chelone glabra</i>	turtlehead				0.016		0.016
<i>Cinna arundinacea</i>	common wood reed					1.350	1.350
<i>Cirsium hillii</i>	hills thistle		0.010	0.016			0.026
<i>Clematis virginiana</i>	virgins bower			0.430	0.430	0.430	1.329
<i>Coreopsis lanceolata</i>	sand coreopsis	2.000	3.900				5.850
<i>Coreopsis palmata</i>	prairie coreopsis		6.000	6.000			11.731
<i>Coreopsis tripteris</i>	tall coreopsis		4.000	4.000			7.400
<i>Corylus americana</i>	american hazelnut					3.550	3.550
<i>Crocantemum bicknellii</i>	pinweed rockrose	0.600	0.216				0.816
<i>Cuscuta campestris</i>	field dodder		0.180	0.180			0.367
<i>Cyperus lupulinus</i>	hop sand sedge	0.100	0.100				0.196
<i>Dalea candida</i>	white prairie clover	2.400	2.400	2.400			7.425
<i>Dalea purpurea</i>	purple prairie clover	2.000	9.500	9.500			21.747
<i>Danthonia spicata</i>	poverty oat grass		0.450	0.450			0.940
<i>Dasistoma macrophylla</i>	mullein foxglove				1.390	3.000	4.390
<i>Desmanthus illinoensis</i>	illinois bundleflower			0.100			0.100
<i>Diarrhena obovata</i>	beak grass					0.001	0.001
<i>Dichanthelium scribnerianum</i>	scribners panic grass			0.027			0.027
<i>Dodecatheon meadia</i>	shooting star		10.000	10.000			19.974
<i>Drymocallis arguta</i>	prairie cinquefoil	1.125	8.750	5.000			14.863
<i>Echinacea pallida</i>	pale purple coneflower	4.000	162.000	162.000			328.500
<i>Epilobium coloratum</i>	cinnamon willowherb				2.517		2.517
<i>Erigeron strigosus</i>	daisy fleabane	1.300	3.900	2.600			7.800
<i>Eryngium yuccifolium</i>	rattlesnake master		30.000	35.700			65.700
<i>Eupatorium perfoliatum</i>	common boneset			2.000	10.600		12.600
<i>Euphorbia corollata</i>	flowering spurge	0.340	1.000	0.850			2.195
<i>Eurybia furcata</i>	forked aster					0.043	0.043

<i>Euthamia graminifolia</i>	smooth grass-leaved goldenrod		0.600	2.000	0.250		2.966
<i>Eutrochium maculatum</i>	spotted joe pye weed			2.800	4.000		6.850
<i>Eutrochium purpureum</i>	purple joe pye weed					13.911	13.911
<i>Festuca subverticillata</i>	nodding fescue					0.160	0.160
<i>Froelichia floridana</i>	plains snake-cotton	0.000					0.001
<i>Gaura longiflora</i>	common gaura		0.028				0.028
<i>Gentiana alba</i>	yellowish gentian		15.000	15.000			30.360
<i>Gentiana puberulenta</i>	prairie gentian			0.400			0.400
<i>Geum triflorum</i>	prairie smoke		0.021				0.021
<i>Helenium autumnale</i>	sneezeweed			0.500	1.000		1.500
<i>Helianthus divaricatus</i>	woodland sunflower		0.300	0.300		1.000	1.600
<i>Helianthus grosseserratus</i>	sawtooth sunflower			4.200	4.200		8.470
<i>Helianthus occidentalis</i>	western sunflower	0.500	0.900	0.500			1.943
<i>Helianthus pauciflorus</i>	prairie sunflower		0.200	0.200			0.416
<i>Heliopsis helianthoides</i>	false sunflower		4.200	4.200			8.400
<i>Hesperostipa spartea</i>	porcupine grass	0.135	0.135				0.270
<i>Heterotheca camporum</i>	plains golden aster	0.190	0.190				0.380
<i>Heuchera richardsonii</i>	prairie alum root		0.500	0.200			0.718
<i>Hibiscus palustris</i>	northern rose mallow				1.700		1.764
<i>Hieracium gronovii</i>	hairy hawkweed		0.019	0.019			0.038
<i>Houstonia longifolia</i>	long-leaved bluets	0.012					0.012
<i>Hylodesmum glutinosum</i>	pointed ticktrefoil					0.036	0.036
<i>Hypoxis hirsuta</i>	yellow star grass			0.060			0.060
<i>Hystrix patula</i>	bottlebrush grass					0.887	0.887
<i>Iris virginica var. shrevei</i>	blue flag				0.142		0.142
<i>Juncus interior</i>	inland rush		3.000	4.000	0.300		7.393
<i>Juncus tenuis</i>	path rush		4.600	4.600			9.193
<i>Juncus torreyi</i>	torreys rush				0.387		0.387
<i>Koeleria macrantha</i>	june grass	2.517	12.000	12.000			26.517
<i>Krigia biflora</i>	false dandelion	0.004					0.004
<i>Krigia virginica</i>	dwarf dandelion	0.028					0.028
<i>Lechea tenuifolia</i>	slender-leaved pinweed	0.019	0.180				0.198

<i>Lespedeza capitata</i>	round-headed bush clover	7.750	30.000	20.000			57.750
<i>Liatris aspera</i>	rough blazing star	1.900	5.000	1.000			7.90
<i>Liatris cylindracea</i>	cylindrical blazing star	0.044					0.044
<i>Liatris pycnostachya</i>	prairie gay feather		19.000	51.000	10.000		82.900
<i>Lilium michiganense</i>	michigan lily				0.019		0.019
<i>Linum sulcatum</i>	grooved yellow flax	0.050					0.050
<i>Lithospermum canescens</i>	hoary puccoon	0.012					0.012
<i>Lithospermum incisum</i>	fringed puccoon	0.078					0.078
<i>Lobelia cardinalis</i>	cardinal flower			0.020	0.075		0.095
<i>Lobelia siphilitica</i>	great blue lobelia			0.075	0.200		0.275
<i>Lobelia spicata</i>	pale-spiked lobelia			0.001			0.001
<i>Ludwigia alternifolia</i>	seedbox			0.900	8.000		8.900
<i>Lupinus perennis var. occidentalis</i>	wild lupine	1.500	4.500	0.750			6.750
<i>Mimulus ringens</i>	monkey flower			0.050	0.800		0.850
<i>Monarda fistulosa</i>	wild bergamot		2.500	2.500			5.330
<i>Monarda punctata</i>	horse mint	0.080	0.150	0.150			0.389
<i>Nuttallanthus canadensis</i>	blue toadflax	0.260					0.260
<i>Oenothera biennis</i>	common evening primrose	0.300	0.300	0.100			0.700
<i>Oenothera clelandii</i>	sand evening primrose	0.004					0.004
<i>Oligoneuron album</i>	stiff aster	0.500	0.300				0.840
<i>Oligoneuron rigidum</i>	stiff goldenrod		1.100	1.100			2.284
<i>Onoclea sensibilis</i>	sensitive fern				0.656		0.656
<i>Onosmodium molle</i>	rough marbleseed	1.200	1.200				2.572
<i>Opuntia cespitosa</i>	eastern prickly pear	1.000					1.000
<i>Packera plattensis</i>	prairie ragwort		1.200	1.200			2.400
<i>Panicum capillare</i>	old witch grass	0.500	0.500				1.016
<i>Parthenium integrifolium</i>	wild quinine	8.000	52.000	52.000			111.004
<i>Pedicularis canadensis</i>	wood betony		2.500	2.500			10.238
<i>Pedicularis lanceolata</i>	fen betony				4.700		4.700
<i>Penstemon digitalis</i>	foxglove beard tongue		24.000	24.000			48.600
<i>Penstemon grandiflorus</i>	Large Flowered Beardtongue	0.040	0.040				0.082
<i>Penstemon hirsutus</i>	hairy beard tongue	0.674	2.500				3.174
<i>Phemeranthus rugospermus</i>	fame flower	0.006					0.006
<i>Phlox pilosa</i>	sand prairie phlox	0.011					

<i>Physocarpus opulifolius</i>	Ninebark				0.176		0.176
<i>Physostegia virginiana</i>	obedient plant				0.543		0.543
<i>Polytaenia nuttallii</i>	prairie parsley				0.170	0.170	0.36
<i>Pseudognaphalium obtusifolium</i>	old-field balsam	0.400	0.500				0.9
<i>Pulsatilla patens subsp. multifida</i>	Pasque Flower	0.043					0.043
<i>Pycnanthemum tenuifolium</i>	slender mountain mint		2.00	5.000			7.4
<i>Pycnanthemum virginianum</i>	common mountain mint		1.000	6.000	1.800		8.8
<i>Rhexia virginica</i>	virginia meadow beauty					0.074	0.074
<i>Ratibida pinnata</i>	yellow coneflower		14.000	14.000			28.00
<i>Rosa carolina</i>	pasture rose	0.500	3.500	1.000			4.960
<i>Rudbeckia hirta</i>	black-eyed susan	1.500	18.000	18.000			37.650
<i>Rudbeckia subtomentosa</i>	sweet black-eyed susan		5.000	12.000			17.420
<i>Ruellia humilis</i>	prairie petunia		0.043				0.043
<i>Quercus macrocarpa</i>	Bur oak		5.000	5.000	5.000		15.00
<i>Schizachyrium scoparium</i>	little bluestem	9.150					9.150
<i>Schoenoplectus acutus</i>	hard stemmed bulrush				9.900		9.900
<i>Scirpus atrovirens</i>	dark green rush				6.400		6.400
<i>Scrophularia lanceolata</i>	early figwort				63.000		63.000
<i>Scutellaria ovata</i>	heart-leaved skullcap					0.105	0.105
<i>Scutellaria parvula</i>	small skullcap		0.082				0.082
<i>Senna hebecarpa</i>	wild senna			0.758			0.758
<i>Silene antirrhina</i>	sleepy catchfly	0.002					0.002
<i>Silphium integrifolium</i>	rosinweed		4.300	4.300			8.600
<i>Silphium laciniatum</i>	compass plant	2.600	11.000	11.000			24.654
<i>Silphium perfoliatum</i>	silphium perfoliatum			2.950			2.950
<i>Silphium terebinthinaceum</i>	prairie dock		3.400	3.400			6.8
<i>Solidago nemoralis</i>	old-field goldenrod	1.008					1.008
<i>Solidago speciosa</i>	showy goldenrod	1.150	9.000				10.150
<i>Spartina pectinata</i>	prairie cordgrass						
<i>Spiraea alba</i>	meadowsweet			0.022			0.022
<i>Symphyotrichum ericoides</i>	heath aster			0.402	0.402		0.804

<i>Symphyotrichum oblongifolium</i>	Aromatic aster	0.536					0.536
<i>Symphyotrichum sericeum</i>	silky aster	0.100	0.202				0.302
<i>Tephrosia virginiana</i>	Goats rue	2.000	5.00				6.922
<i>Teucrium canadense</i>	canadian germander	0.562					0.0562
<i>Tradescantia ohiensis</i>	Common spiderwort	4.450	30.00	8.900			47.960
<i>Triosteum aurantiacum</i>	Early horse gentian		0.150	0.150			0.350
<i>Verbena hastata</i>	Blue vervain			40.000	4.000		44.090
<i>Verbena stricta</i>	Hoary vervain		5.200	5.200			10.400
<i>Verbena urticifolia</i>	Hairy white vervain				2.000	2.500	4.500
<i>Verbesina alternifoli</i>	Wingstem					0.021	0.021
<i>Vernonia fasciculata</i>	Common ironweed			10.000	4.000		14.010
<i>Veronicastrum virginicum</i>	Culvers root			10.000	1.520		11.520
<i>Viola pedata var. lineariloba</i>	Birds foot violet	0.063					0.063
<i>Zizia aptera</i>	Heart Leaved alexanders		0.140				0.140
<i>Zizia aurea</i>	Golden alexanders		8.000	8.000			16.900
Hand Picked Mixes							
Dry Sedge			2.350				2.350
Wet Sedge					24.585		24.585
Woodland Grass						0.847	0.847
Wet mix/grass sedge				5.000	4.000		9.050
Panic Grasses				0.550			0.550
Combine Mixes							
Prairie Dropseed		6.000	100.000	98.650			204.650
Little Bluestem		6.000	150.000				156.000
2020 Canada Rye		3.000	80.000				83.000
2020 Holland Mix		10.000	53.000	30.500			93.500
2020 Mesic Mix				48.500			48.500
2011 Dry Mesic			8.500				8.500
2020 Tall Grass			80.000	106.750			186.750
Wet Mix					42.100		42.100

Table 5: The 2021 Seed List, which names the different species that were included in the mixes used for this planting. The amounts are separated by which seed mix they were added to.

	Dry	Dry Mesic	Mesic	Wet	Step-In	SUM
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Total LBS	112.836	1,143.195	1,015.731	252.038	<20	2,756.004
Total # species	68	97	99	49	39	192

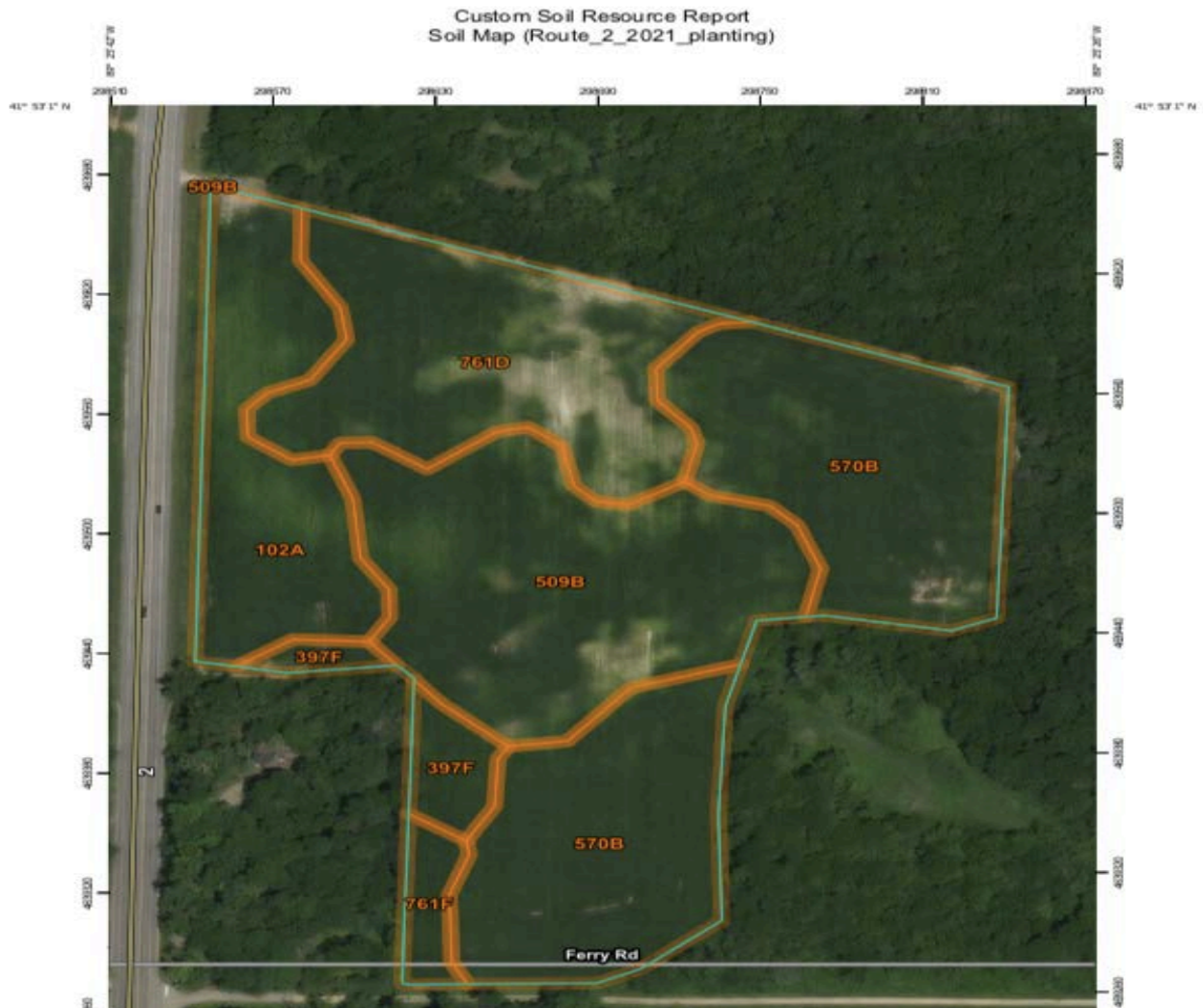
Table 6: Summary of seed mixes. 192 total species were incorporated into the seed mixes.

Lessons Learned

It seems the planting went very well, especially considering for all involved this was their first planting. For future planting, I believe it would work well to incorporate the pendulum seeder on a tractor in addition to the seeders.

Maps and photos follow.

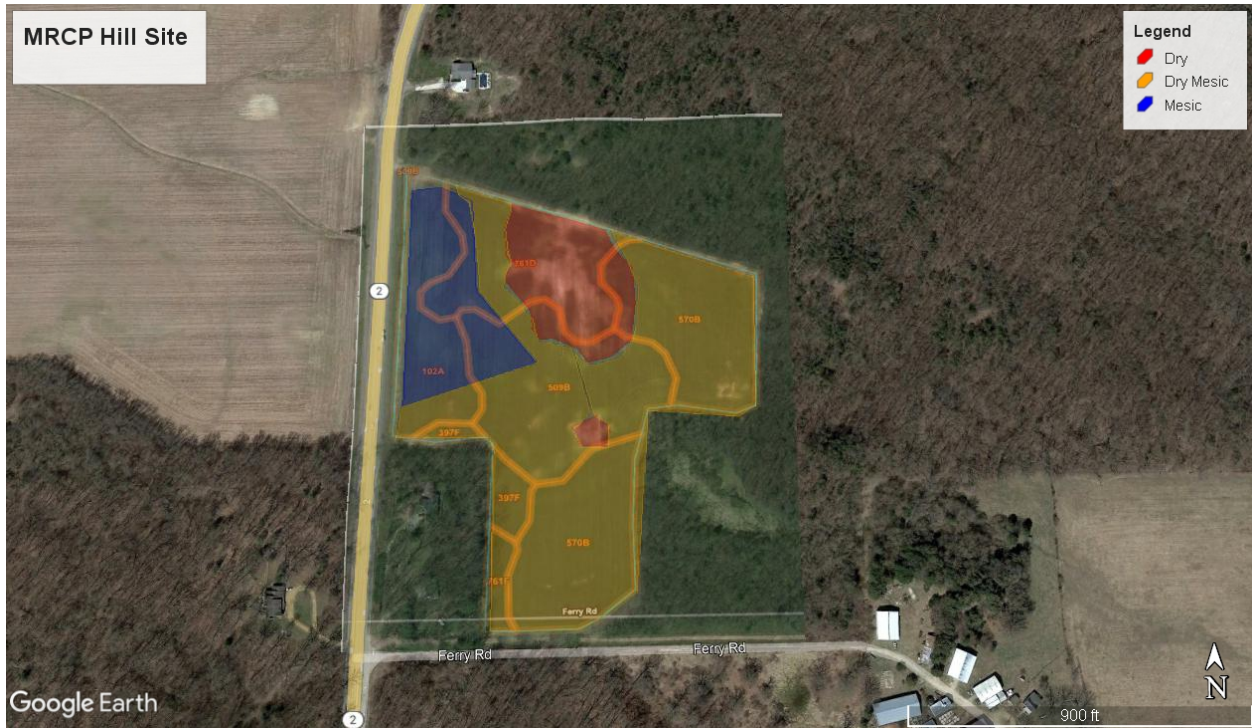
Map A



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
102A	La Hogue loam, 0 to 2 percent slopes	2.6	14.6%
397F	Boone loamy fine sand, 15 to 35 percent slopes	0.6	3.5%
509B	Whalan loam, 2 to 5 percent slopes	4.4	24.5%
570B	Martinsville silt loam, 2 to 5 percent slopes	6.4	35.4%
761D	Eleva fine sandy loam, 7 to 15 percent slopes	3.6	20.0%
761F	Eleva fine sandy loam, 15 to 35 percent slopes	0.4	2.1%
Totals for Area of Interest		18.0	100.0%

Map A: Soil types and their locations within the 18 acres of planting, according to the key.

Source: NRCS



Map B: Map showing where the different seed mixes were planted. Source: GoogleEarth



Map C: Map showing where step-in seed species were hand-seeded. Source: GoogleEarth.

Photos



Photo 1: Showing white truck at the starting line of the very first transect of the planting.



Photo 2: Shows the three vehicles including the MRCP Service Truck putting the final touches on the planting. Photo sourced from Dee Hudson.



Photo 3: Shows the fall crew members, Veronica Silva and Matthew Togger, filling the seeders for use. Photo sourced by Dee Hudson.