



The Meadoway: Vegetation, Bird, and Butterfly Monitoring 2016, 2018-2025

Prepared by Watershed Planning and Ecosystem Science

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INTRODUCTION

The Meadoway project involves the revitalization of a 16 km linear hydro corridor, formerly known as the Gatineau Hydro Corridor (**Error! Reference source not found.** and Figure 2). The goals of the revitalization are to create and maintain meadow habitat and to create an active east-west link between downtown Toronto and Rouge National Urban Park becoming one of the largest urban greenspaces in Canada (Sharma 2018).

Restoration and maintenance activities have included seeding portions of the corridor with flora species native to meadows in the region, selective mowing, and invasive species management. Restoration began in 2012 with the section near McCowan Road and Lawrence Avenue East being prepared and seeded. Several other sections were seeded between 2013 and 2016; however, some sections remained un-restored as highly manicured turfgrass. Several of these turfgrass areas started undergoing restoration (spraying, tilling, seeding cover crops) in the summer of 2019 while other sections began in 2020 and 2023. Mowing and herbicide application have occurred intermittently in different sections over the years.

Monitoring activities occurred in 2016 and 2018-2025 to document changes in species composition related to the vegetation, breeding birds, and butterfly presence. This report is an update to the 2024 monitoring report (TRCA 2024) but focusing more on comprehensive reporting of all species and percent cover across all years of monitoring. We have also included a summary of data collected in several experimental areas testing unique site preparation methods. We also summarized the results of bird and butterfly surveys throughout The Meadoway and conducted pre- and post-restoration comparisons where possible.



Figure 1. Large-flowered coreopsis (*Coreopsis grandiflora*) at The Meadoway.

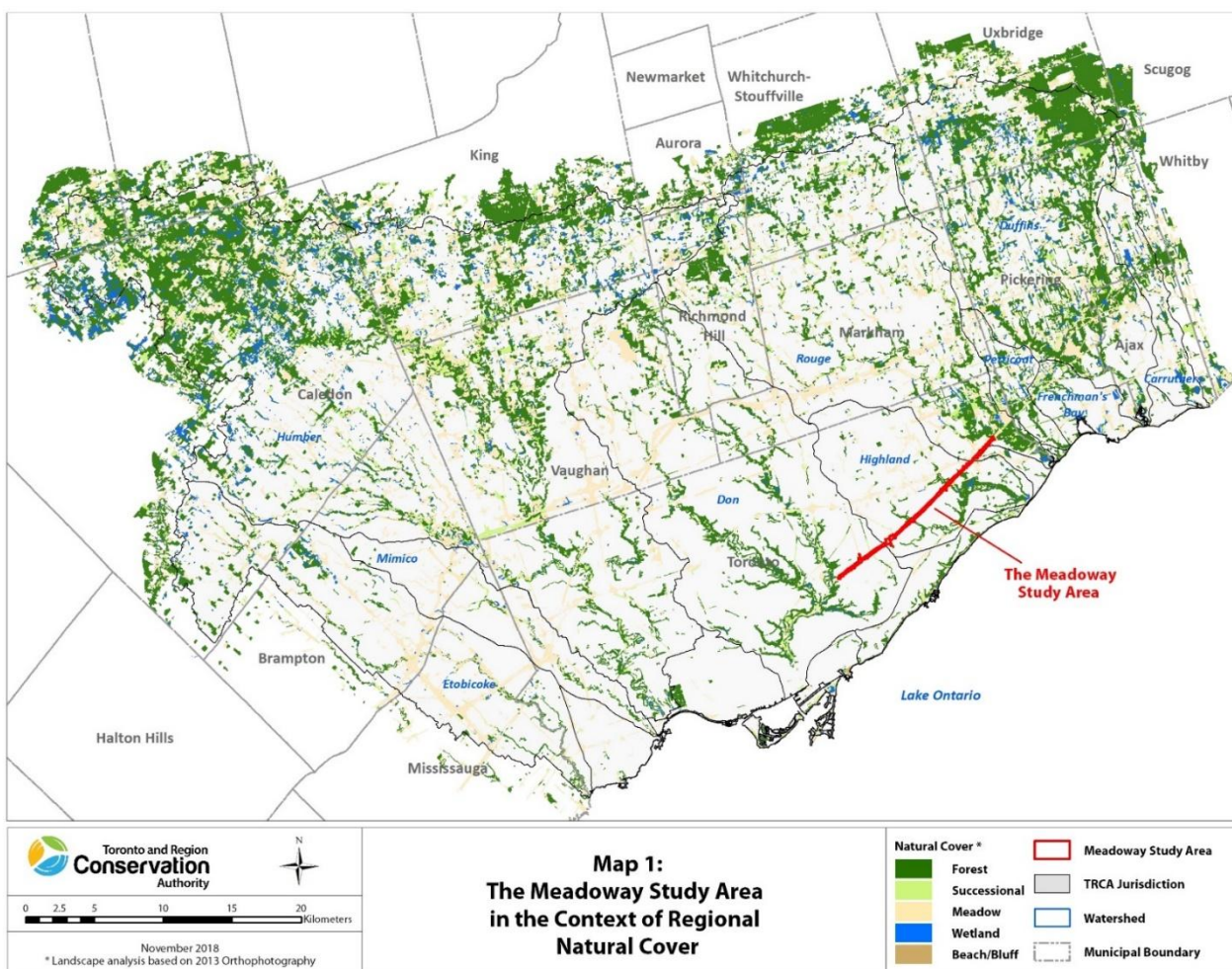


Figure 2. Geographic location of The Meadoway related to TRCA's jurisdiction.

METHODOLOGY

Vegetation plots

The methodology for monitoring meadow ecosystems used by Toronto and Region Conservation Authority (TRCA) is based on the Ecological Monitoring and Assessment Network (EMAN) endorsed terrestrial vegetation biodiversity monitoring protocols identified by Roberts-Pichette and Gillespie (1999). As the EMAN protocol was originally intended for forest communities, adaptations to the protocol were made making it specific to meadow ecosystems (Figure 3).

Each meadow plot consisted of one 20 x 20 m (400 m²) main plot, five 2 x 2 m (4 m²) shrub and sapling regeneration sub-plots and five 1 x 1 m (1 m²) ground cover vegetation sub-plots (nested within the larger regeneration sub-plots). Shrub and sapling regeneration sub-plots were monitored once during the growing season (September). Sites were visited approximately the same time each year coinciding with the second ground vegetation visit. All shrubs and seedlings that were <10 cm diameter-at-breast-height and ≥16 cm in height were considered in regeneration sub-plots. Only live plants were recorded in regeneration sub-plots. The boundaries of the 2 x 2 m sub-plots were identified and delineated. All qualifying plant species originating within the sub-plot were identified. Individuals within each species were then measured with a metre stick and recorded into the appropriate height class located on the data sheet. Height measurements were taken from the ground to the upper most living portion of the plant. For plants that leaned, the vertical distance from the ground to the highest part of the plant was recorded as the height. The percent cover that each species provides was estimated.



Figure 3. Monitoring vegetation plots at The Meadowway.

All herbaceous plants, regardless of size, as well as shrub, tree, and woody vines <16 cm in height were considered in ground vegetation sub-plots.

Ground vegetation sub-plot monitoring was conducted twice during the growing season to capture early and late growing meadow/prairie species. The first visit was in early June and the second in late summer (September). Sites were visited approximately the same time each year. Each plant species originating within or hanging over into the 1 x 1 m sub-plot was identified. A 50 x 50 cm grid square consisting of smaller 10 x 10 cm grids was positioned over corner “A” of the sub-plot and shifted to the other three corners. The number of 10 x 10 cm squares that each species occupies was summed to determine their total percentage of cover within the sub-plot. It was also noted if a species was solitary. The cover of dead vegetation (thatch) was also measured in the ground vegetation plots (only in the spring visit).

Species lists were created for the plot as a whole using data combined from the 20 x 20, all 2 x 2s and all 1 x 1s. For a detailed description of vegetation monitoring methodology please see the Meadow Vegetation LTMP Monitoring Protocol (TRCA 2022).

Vegetation data were interpreted using TRCA’s local rank (L-rank) system for flora (TRCA 2017). The L-rank system is a species scoring and ranking system developed at TRCA to provide guidance for natural heritage protection and management within the jurisdiction. The L-rank system uses simple ranks to convey individual species’ ecological needs and sensitivities rather than just “rarity” in order to portray such complexities on a simple ordinal scale. Flora are scored using four criteria: local occurrence, population trend, habitat dependence and sensitivity to development impacts. For example, species ranked L1 would have: a limited local occurrence, declining population trends, habitat specialist preferences, and a sensitivity to development. Species ranked L5

would have: a widespread local occurrence, increasing population trends, habitat generalist preferences, and a tolerance to development. These are extreme examples and species can be ranked L1, L2, L3, L4 or L5 based on the scores associated with this combination of ecological needs and population status assessments. In addition, flora species can be categorized as follows: L1-L3 species are of regional conservation concern, L4 species are of conservation concern in urban areas, L5 species are not of conservation concern at this time, L* species are native to southern Ontario but with no known natural records in TRCA jurisdiction, LX species have been extirpated from the TRCA jurisdiction (but have been planted since extirpation), L+ species are introduced species not native to the TRCA jurisdiction, L+? species are probably introduced.

Bird stations

Meadow bird monitoring followed an adapted Ontario Forest Bird Monitoring Protocol (Figure 4). This protocol is also used for meadow bird surveys conducted through TRCA's Terrestrial Long-term Monitoring Program (TRCA 2011). Meadow birds were monitored twice during the field season with the first visit occurring between May 15th and May 30th, and the second visit between May 30th and June 15th, with at least 10 days between visits. Counts were conducted between 05:00 and 10:00 hours and at approximately the same time of day on subsequent visits from year to year. Counts were only conducted in good weather conditions (no rain, light winds). All birds seen or heard within a 100 m radius circle and during a 10-minute time period were recorded. This report only contains species potentially breeding at the site.



Figure 4. Biologists conducting bird monitoring.

Butterfly transects

Butterflies were surveyed by slowly walking a specified path through the meadow and identifying/counting butterfly species observed (e.g., Figure 5). Butterflies were identified to species where possible or to genus if species-level identification was not possible. Four visits were made each year to capture variation in adult emergence dates among resident and migratory species. Surveys were conducted between 09:00 and 16:00 and only in good weather conditions ($>10^{\circ}\text{C}$, no rain, light winds). Start and end times were recorded and were generally consistent among years.



Figure 5. Monarch (*Danaus plexippus*) at The Meadoway.

RESULTS

Thirty-five vegetation plots were set up between 2016 and 2025 (Table 1, Figure 6). Plots were set up in different years corresponding to the occurrence of management activities. Bird monitoring was completed in 2016, and 2018-2024 while butterfly monitoring was completed in 2016, and 2018-2025. In 2016 and 2018, five sections were surveyed for butterflies with transects situated on the paved trail that runs the length of the corridor. In 2019, transects were moved slightly in each section to run beneath the northmost hydro wires for the entire length of the corridor (instead of along the trail).

Table 1. Vegetation plots, bird surveys, and butterfly survey locations and years surveyed. If blank, no surveys were done.

| Section | Veg plot name | Vegetation plot monitoring years | Bird survey station # | Bird survey years | Butterfly transect | Butterfly survey years |
|---------|---------------|----------------------------------|-----------------------|-----------------------|----------------------------|-----------------------------|
| 1.1 | MV-24_1.1X | 2019-2025 | 11 | 2021-2024 | 1C | 2021-2025 |
| | MV-24_1.1Y | 2020-2025 | | | | |
| 1.2 | MV-24_1.2P | 2018-2025 | 8 | 2020-2024 | Bermondsey to Soccer Field | 2022, 2024, 2025 |
| | | | | | 1F | 2020-2025 |
| 1.3 | MV-24_1.3Q | 2018, 2020-2025 | 12 | 2021-2024 | 1H | 2021-2025 |
| | MV-24_1.3V | 2019, 2020 | | | | |
| 1.4 | MV-24_1.4W | 2019 | 6 | 2018, 2019, 2021-2024 | 1J | 2019, 2021-2025 |
| | MV-24_1.4R | 2018 | | | | |
| | MV-24_1.4AI | 2023-2025 | | | | |
| 2.2 | MV-24_2.2AJ | 2023, 2024 | 15 | 2022, 2024 | 2 | 2022-2025 |
| | MV-24_2.2S | 2018, 2019, 2021-2025 | | | | |
| 2.3 | MV-24_2.3T | 2018, 2019, 2021-2025 | | | | |
| 2.4 | MV-24_2.4U | 2018, 2019, 2021-2025 | 7 | 2018, 2019-2024 | 2K | 2019, 2021-2025 |
| 3.2 | MV-24_3.2AA | 2020, 2024, 2025 | 16 | 2024 | 3.2A, 3.2B | 2024 |
| 3.3 | MV-24_3.3AB | 2020, 2024, 2025 | 17 | 2024 | 3.3A | 2024 |
| 4.1 | MV-24_4.1G | 2016, 2018-2025 | 1 | 2016, 2018-2024 | A | 2016, 2018-2025 |
| | MV-24_4.1H | 2016, 2018-2025 | | | B | 2016, 2018, 2019, 2021-2025 |
| | MV-24_4.1I | 2016, 2018, 2019, 2021-2025 | | | | |
| 4.2 | MV-24_4.2A | 2016, 2018-2025 | 2 | 2016, 2018-2024 | A, B, C, D | 2016, 2018-2025 |
| | MV-24_4.2B | 2016, 2018-2025 | | | | |
| | MV-24_4.2C | 2016, 2018-2025 | | | | |
| 4.3 | MV-24_4.3D | 2016, 2018-2025 | 3 | 2016, 2018-2024 | A, B, D | 2016, 2018-2025 |
| | MV-24_4.3E | 2016, 2018-2025 | | | | |
| | MV-24_4.3F | 2016, 2018-2025 | | | | |
| 4.4 | MV-24_4.4J | 2016, 2018-2025 | 4 | 2016, 2018-2024 | B | 2016, 2018-2025 |

| Section | Veg plot name | Vegetation plot monitoring years | Bird survey station # | Bird survey years | Butterfly transect | Butterfly survey years |
|---------|---------------|----------------------------------|-----------------------|-------------------|--------------------|---|
| | MV-24_4.4K | 2016, 2018-2025 | | | E | 2021-2025 |
| | MV-24_4.4L | 2016, 2018-2025 | | | | |
| 5.1 | MV-24_5.1AC | 2020, 2023, 2025 | | | | |
| 5.2 | N/A | N/A | 9 | 2020, 2024 | D | |
| 5.3 | MV-24_5.3AD | 2020, 2023, 2025 | 10 | 2020, 2024 | E, F | 2020, 2023, 2025 |
| 5.4 | MV-24_5.4AE | 2020, 2023, 2025 | | | G | |
| 6.1 | MV-24_6.1AF | 2020, 2024, 2025 | | | A | 2025 |
| 6.2 | MV-24_6.2AG | 2020, 2024, 2025 | 13 | 2021, 2022 | B | 2021-2022, 2025 |
| 6.4 | MV-24_6.4AH | 2020, 2024, 2025 | 14 | 2021, 2022, 2024 | C | 2021-2025 |
| | MV-24_7.1M | 2016, 2018-2025 | | | | |
| 7.1 | MV-24_7.1N | 2016, 2018-2025 | 5 | 2016, 2018-2024 | A, B, C, D, E | 2016, 2018-2025 (E only surveyed in 2019) |
| | MV-24_7.1O | 2016, 2018-2025 | | | | |

*Research plots N and O and butterfly transects 7.1 B and C were mowed unexpectedly in 2025. Interpret data cautiously.

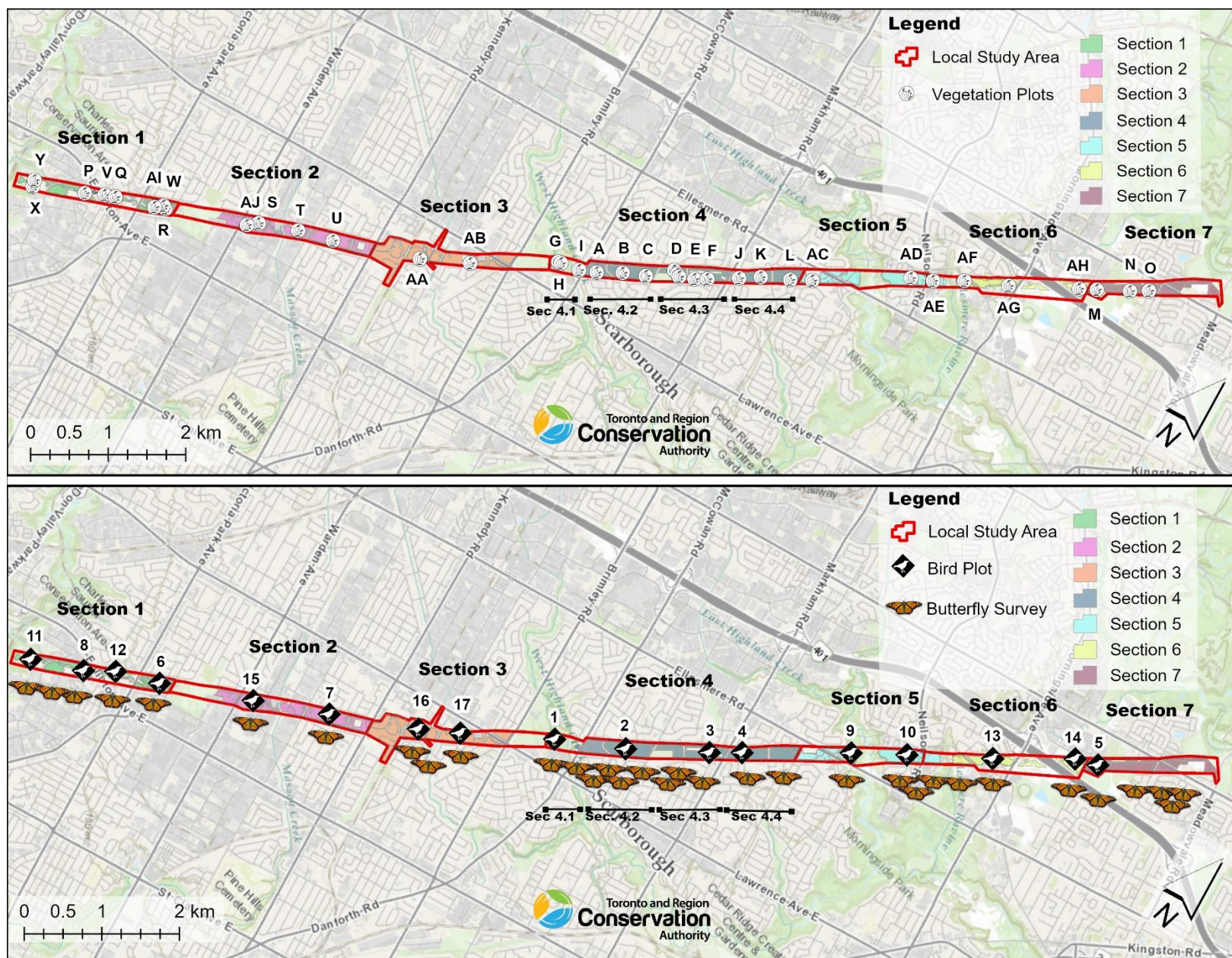


Figure 6. Vegetation plot, bird, and butterfly survey locations at The Meadoway in 2016, 2018-2025.

Vegetation plots

Data collected at vegetation monitoring plots are comprehensively presented in this section of the report in tabular format. This allows for a visual representation of changes in plant communities and percent cover over time. Species are grouped by plant type (graminoid, forb, targeted invasive, or woody) and by origin (native or non-native to Ontario). Within each grouping, species are ordered from highest to lowest percent cover, with shading used to help visualize changes. Thatch and bare soil cover are also presented at the bottom of each table.

For each species, the percent cover value shown in the table represents the higher of the average cover values recorded during the spring and summer visits. For example, if common milkweed (*Asclepias syriaca*) had an average cover of 10% across sub-plots 1-5 during the spring visit and 20% during the summer visit, the value reported in the table would be 20%. Darker shades of green represent higher cover values as indicated in the legend for each table. Text summaries are provided by section, with plot-specific details found directly in tables.

Section 1

Section 1.1

Two plots were monitored in section 1.1 (plots 1.1X and 1.1Y; Table 2 and 3). Pre-restoration in 2019, plot 1.1X was dominated by non-native graminoids and dog-strangling vine (*Vincetoxicum rossicum*; DSV). Following restoration both plots had a higher cover of native graminoids and forbs compared to pre-restoration conditions. In 2020, plot 1.1Y had a high cover of panic grass (*Panicum capillare*) and oats; however, cover of both species decreased to virtually zero in subsequent years. Oats are part of the cover crops and are expected to disappear within the first couple of years following restoration. Panic grass is a native plant associated with disturbed areas, and its decline reflects natural successional processes.

The cover of tall goldenrod (*Solidago altissima* var. *altissima*) increased in both plots, rising from 4.6% in 2019 to 18.5% in 2025 in plot 1.1X, and from 4.4% in 2020 to 72.4% in 2025 in plot 1.1Y. Other than tall goldenrod, forbs such as showy tick-trefoil (*Desmodium canadense*) and ox-eye (*Heliopsis helianthoides*) appear to have established well in plot 1.1X, while black-eyed Susan (*Rudbeckia hirta* var. *pulcherrima*), false dragonhead (*Physostegia virginiana* ssp. *virginiana*), foxglove beardtongue (*Penstemon digitalis*), and wild bergamot (*Monarda fistulosa* var. *fistulosa*) established in plot 1.1Y. Varying levels of establishment across plots occurs as a result of different soil conditions, including an old gravel road substrate providing opportunities for unique species such as foxglove beardtongue. The cover of native graminoids was higher in plot 1.1X compared to 1.1Y.

Section 1.2

One plot was monitored in section 1.2 (plot 1.2P; Table 4). In 2018 and 2019, plot 1.2P was dominated by non-native graminoids and forbs. By 2025, dominant species include tall goldenrod (57.8%), and several non-native forbs. Creeping thistle (*Cirsium arvense*) cover was high in 2023 (12.2%) and 2024 (9.9%); however, decreased to 4.4% in 2025.

Section 1.3

One plot was monitored in section 1.3 (plot 1.3Q; Table 5). In 2018, plot 1.3Q contained only non-native graminoids and forbs. By 2025, the plot contained a variety of native forbs with high covers such as ox-eye with a cover of 55.2% and tall goldenrod (15.8%).

Section 1.4

One plot was monitored in section 1.4 (plot 1.4AI; Table 6). In 2025, plot 1.4AI was dominated by tall goldenrod (56.2%), ox-eye (7.2%), along with several other native and non-native grasses and forbs. Kentucky blue grass (*Poa pratensis* ssp. *pratensis*) cover has increased from 9.4% in 2023 to 15% in 2025.

Table 2. Plot 1.1X percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2019* | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|-----------------------------|--------|----------------------|-------------------|-------|------|------|------|------|------|------|-----------------------|
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 2.4 | 2.8 | 3.1 | 3.7 | 2 | 4.5 | 80-100 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 17.4 | 0 | 0 | 0 | 0 | 0 | 60-80 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 1.2 | 1.6 | 4.2 | 5.2 | 1.3 | 1.9 | 40-60 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 1.2 | 1.2 | 1.2 | 2.2 | 1.8 | 2.2 | 20-40 |
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 0.4 | 1.5 | 0.4 | 0.5 | 0 | 0 | 10-20 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 0 | 0.9 | 0.2 | 0.3 | 0 | 0.3 | 5-10 |
| <i>Juncus dudleyi</i> | Dudley's rush | L5 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.2 | 2-5 |
| <i>Echinochloa muricata</i> var. <i>microstachya</i> | small-spiked barnyard grass | L5 | Native | Graminoids | 0 | 0.6 | 0 | 0 | 0 | 0 | 0 | 1-2 |
| <i>Bromus ciliatus</i> | fringed brome grass | L3 | Native | Graminoids | 0 | 0 | 0.1 | 0.1 | 0.2 | 0 | 0 | 0.1-1 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 15.6 | 6 | 7 | 6.4 | 6.6 | 9.4 | 5.2 | 0 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 12.6 | 0 | 0 | 0 | 0.8 | 8.2 | 7 | |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 3.2 | 0 | 0.3 | 3.2 | 4.4 | 3.2 | 5.4 | |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 6 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 4 | 0 | 0 | 0 | 0 | 0 | |
| <i>Setaria pumila</i> ssp. <i>pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 2 | 0.2 | 0.1 | 0 | 0 | 0 | |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0.1 | 0 | 0.6 | 0.1 | 0.4 | 0.2 | 0 | |
| <i>Digitaria sanguinalis</i> | hairy crab grass | L+ | Non-native | Graminoids | 0 | 0.8 | 0 | 0 | 0 | 0 | 0 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 4.6 | 2.8 | 13.2 | 14.4 | 20.8 | 22 | 18.5 | |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 0 | 3.4 | 7.8 | 6.2 | 13 | 10 | 10.8 | |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 2.6 | 2.6 | 3 | 8.4 | 9 | 7.4 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 3.2 | 6.6 | 12 | 4.2 | 2.7 | 1.5 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 11 | 11.8 | 0.4 | 0.6 | 0.1 | 0.1 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0.6 | 1.7 | 1.7 | 2.4 | 1.7 | 2.7 | |
| <i>Symphotrichum ericoides</i> var. <i>ericoides</i> | heath aster | L5 | Native | Forbs | 0.1 | 0.2 | 0.4 | 1.5 | 3.2 | 1.8 | 2.8 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.6 | 1.2 | 1.6 | 0.6 | 2.4 | 3.1 | |
| <i>Asclepias incarnata</i> ssp. <i>incarnata</i> | swamp milkweed | L4 | Native | Forbs | 0 | 1.2 | 1.6 | 0.7 | 2 | 2.1 | 1.6 | |
| <i>Symphotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0.8 | 0.6 | 0.6 | 1.6 | 2 | 1.2 | 0.6 | |
| <i>Achillea borealis</i> var. <i>borealis</i> | woolly yarrow | L5 | Native | Forbs | 1 | 0 | 0.6 | 1 | 0.8 | 0.8 | 0.8 | |
| <i>Solidago gigantea</i> | smooth goldenrod | L5 | Native | Forbs | 1.8 | 0 | 0 | 0.2 | 0.2 | 0.8 | 1.2 | |
| <i>Equisetum arvense</i> | field horsetail | L5 | Native | Forbs | 1.8 | 0.2 | 0.2 | 0.4 | 0.5 | 0.2 | 0.6 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 1.2 | 0.8 | 1.6 | 0.1 | 0 | 0 | |
| <i>Euthamia graminifolia</i> | grass-leaved goldenrod | L5 | Native | Forbs | 0 | 0 | 1 | 1 | 0.6 | 0.4 | 0.6 | |
| <i>Rudbeckia laciniata</i> | cut-leaved coneflower | L5 | Native | Forbs | 0 | 0.6 | 0.2 | 0.1 | 0.1 | 0 | 0 | |
| <i>Symphotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0 | 0.2 | 0.4 | 0 | 0.1 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0.3 | 0.2 | 0 | 0.1 | 0 | 0 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.3 | 0.2 | 0 | 0 | 0 | 0 | |
| <i>Physostegia virginiana</i> ssp. <i>virginiana</i> | false dragonhead | L3 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | |
| <i>Patentilla norvegica</i> | rough cinquefoil | L+? | Native | Forbs | 0 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Acalypha rhomboidea</i> | three-seeded mercury | L5 | Native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Galium palustre</i> | marsh bedstraw | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Galium triflorum</i> | sweet-scented bedstraw | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Pycnanthemum virginianum</i> | Virginia mountain-mint | L3 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Symphotrichum laeve</i> var. <i>laeve</i> | smooth aster | L3 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 5.8 | 11.8 | 8.2 | 6.8 | 5.2 | 5.5 | 0.8 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0 | 0.9 | 1 | 1.2 | 12.1 | 6.2 | 2.1 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0.2 | 7.8 | 2.2 | 2.4 | 3.5 | 2.4 | 4.3 | |
| <i>Cichorium intybus</i> | chicory | L+ | Non-native | Forbs | 0 | 1.4 | 3.8 | 0.6 | 1.4 | 1.5 | 2.8 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 0 | 0.5 | 0 | 1.2 | 2.9 | 1.6 | 2.2 | |
| <i>Meililotus albus</i> | white sweet clover | L+ | Non-native | Forbs | 0.1 | 3.8 | 2.7 | 0.2 | 0.4 | 0 | 0.1 | |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.4 | 1 | 1.4 | 1.4 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0 | 0.2 | 0.1 | 0.4 | 1.5 | 0.2 | 0.2 | |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0 | 0.1 | 1 | 0 | 0.2 | 0.5 | 0.6 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0.1 | 0.1 | 0.3 | 0.5 | 0.9 | 0.1 | 0.3 | |
| <i>Lythrum salicaria</i> | purple loosestrife | L+ | Non-native | Forbs | 0 | 0 | 0.5 | 0.2 | 0.4 | 0.4 | 0.8 | |
| <i>Lotus corniculatus</i> | bird's foot trefoil | L+ | Non-native | Forbs | 0.1 | 0 | 0.4 | 0.4 | 0.6 | 0 | 0 | |
| <i>Leucanthemum vulgare</i> | ox-eye daisy | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.2 | 0.6 | 0.2 | 0.2 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 0.1 | 0.1 | 0 | 0.1 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 0.1 | 0 | |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | |
| <i>Amaranthus albus</i> | tumbleweed | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Dipsacus fullonum</i> | teasel | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Ranunculus acris</i> | tall buttercup | L+ | Non-native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Tragopogon dubius</i> | lemon-yellow goat's beard | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 29.4 | 0.6 | 1 | 1.3 | 2.5 | 2.6 | 2.6 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0.2 | 0.7 | 0.8 | 1 | 1.1 | 1.5 | 1.9 | |
| <i>Acer negundo</i> | Manitoba maple | L+? | Native | Woody | 0.1 | 0.2 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Vitis riparia</i> | riverbank grape | L5 | Native | Woody | 0.1 | 0.2 | 0 | 0 | 0 | 0 | 0 | |
| <i>Rhus typhina</i> | staghorn sumach | L5 | Native | Woody | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Ailanthus altissima</i> | tree-of-heaven | L+ | Non-native | Woody | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| Thatch | Thatch | | | | 48 | 4.5 | 19.6 | 27.4 | 7.8 | 23 | 60 | |
| Bare soil | Bare soil | | | | 0 | 14.6 | 6.8 | 5.8 | 2.8 | 0 | 0.2 | |

*Only spring survey completed

Table 3. Plot 1.1Y percent cover by species

| Species | CommonName | L-rank | Native or Non-native | Plant Type | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|---|---------------------------------|--------|----------------------|-------------------|------|------|------|------|------|------|-----------------------|
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0.1 | 0 | 0 | 0 | 0 | 0 | 80-100 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 1 | 3.2 | 3.5 | 2 | 0.5 | 0.1 | 60-80 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 2.2 | 0.6 | 0.8 | 1.2 | 1 | 0.4 | 40-60 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 1.1 | 0.6 | 1.1 | 1 | 0.3 | 0.4 | 20-40 |
| <i>Bromus ciliatus</i> | fringed brome grass | L3 | Native | Graminoids | 0 | 0.7 | 0.3 | 0.3 | 0.1 | 0.2 | 10-20 |
| <i>Juncus dudleyi</i> | Dudley's rush | L5 | Native | Graminoids | 0 | 0 | 0.1 | 0.2 | 0.5 | 0.6 | 5-10 |
| <i>Echinochloa muricata</i> var. <i>microstachya</i> | small-spiked barnyard grass | L5 | Native | Graminoids | 1.2 | 0 | 0 | 0 | 0 | 0 | 2-5 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.8 | 1-2 |
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0.1-1 |
| <i>Carex vulpinoidea</i> | fox sedge | L5 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.3 | 0 |
| <i>Carex bebbii</i> | Bebb's sedge | L5 | Native | Graminoids | 0 | 0 | 0 | 0 | 0.1 | 0.1 | |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 2.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0.4 | 1.6 | 2.2 | |
| <i>Digitaria sanguinalis</i> | hairy crab grass | L+ | Non-native | Graminoids | 0.4 | 0 | 0 | 0 | 0 | 0 | |
| <i>Agrostis gigantea</i> | redtop | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 4.4 | 37.6 | 38 | 64.8 | 61.4 | 72.4 | |
| <i>Physostegia virginiana</i> ssp. <i>virginiana</i> | false dragonhead | L3 | Native | Forbs | 0 | 2.7 | 8.2 | 12.8 | 13.4 | 3 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 1.6 | 4.6 | 7.4 | 4.2 | 6.1 | 5.4 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 4.2 | 4.6 | 2.1 | 1.2 | 0.2 | 0.1 | |
| <i>Asclepias incarnata</i> ssp. <i>incarnata</i> | swamp milkweed | L4 | Native | Forbs | 1.2 | 2 | 2 | 1.8 | 1.8 | 1.2 | |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | L4 | Native | Forbs | 0.1 | 0.1 | 0.9 | 2.4 | 2.9 | 3 | |
| <i>Rudbeckia laciniata</i> | cut-leaved coneflower | L5 | Native | Forbs | 2.2 | 2.3 | 2.1 | 1.2 | 0.5 | 0.1 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 1 | 0.9 | 1.6 | 1.4 | 1 | 0.6 | |
| <i>Symphyotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0.2 | 0.6 | 1.2 | 1.8 | 0.9 | 0.8 | |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0.1 | 0.3 | 1.3 | 1.8 | 0.8 | 0.9 | |
| <i>Helopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0.8 | 0.3 | 0.7 | 0.7 | 1.8 | 0.6 | |
| <i>Symphyotrichum laeve</i> var. <i>laeve</i> | smooth aster | L3 | Native | Forbs | 0 | 0.2 | 0.8 | 1.1 | 1.2 | 0.9 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 2.2 | 1.1 | 0.2 | 0.1 | 0 | 0 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 3.3 | |
| <i>Euthamia graminifolia</i> | grass-leaved goldenrod | L5 | Native | Forbs | 0 | 0.1 | 1.2 | 0.7 | 0.8 | 0.1 | |
| <i>Equisetum arvense</i> | field horsetail | L5 | Native | Forbs | 0.4 | 0.1 | 0.3 | 0.6 | 0.3 | 0.9 | |
| <i>Patentilla norvegica</i> | rough cinquefoil | L+? | Native | Forbs | 0.4 | 1 | 1 | 0.1 | 0.1 | 0 | |
| <i>Symphyotrichum ericoides</i> var. <i>ericoides</i> | heath aster | L5 | Native | Forbs | 0 | 0.1 | 0.6 | 0.4 | 0.8 | 0.2 | |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0.1 | 0.2 | 0.4 | 0.6 | 0.5 | 0.2 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0.6 | 0.4 | 0.2 | 0.1 | 0 | 0 | |
| <i>Eupatorium perfoliatum</i> | boneset | L5 | Native | Forbs | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.5 | |
| <i>Solidago canadensis</i> var. <i>canadensis</i> | Canada goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.8 | 0 | |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 0.4 | 0 | 0.2 | 0 | 0 | 0.1 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0.6 | 0.1 | 0 | 0 | 0 | |
| <i>Verbena hastata</i> | blue vervain | L5 | Native | Forbs | 0 | 0.2 | 0.3 | 0 | 0 | 0.1 | |
| <i>Eutrochium maculatum</i> var. <i>maculatum</i> | spotted Joe-Pye weed | L5 | Native | Forbs | 0 | 0.1 | 0.1 | 0 | 0.1 | 0.1 | |
| <i>Penstemon hirsutus</i> | hairy beard-tongue | L3 | Native | Forbs | 0 | 0.1 | 0.1 | 0.2 | 0 | 0 | |
| <i>Dryocallis arguta</i> | tall cinquefoil | L3 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0.1 | |
| <i>Solidago gigantea</i> | smooth goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.2 | |
| <i>Amphicarpaea bracteata</i> | hog-peanut | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Coreopsis tripteris</i> | tall coreopsis | L+* | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Liatris spicata</i> | spike blazing-star | L2 | Native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Lobelia cardinalis</i> | cardinal flower | L1 | Native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Ratibida pinnata</i> | grey-headed coneflower | L+* | Native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Solidago nemoralis</i> ssp. <i>nemoralis</i> | grey goldenrod | L5 | Native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 5.4 | 7.4 | 7.2 | 7.2 | 7 | 2.6 | |
| <i>Lythrum salicaria</i> | purple loosestrife | L+ | Non-native | Forbs | 1.4 | 1 | 1.3 | 2.6 | 2.8 | 3 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 0.9 | 1.2 | 1.3 | 1.7 | 1.4 | 1.2 | |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0.8 | 2.7 | 0.2 | 0.5 | 1.3 | 1 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 1.1 | 1.4 | 0.9 | 1 | 0.9 | 0.4 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0.2 | 0.1 | 0.4 | 1.1 | 0.5 | 0.6 | |
| <i>Santhus arvensis</i> ssp. <i>arvensis</i> | glandular perennial sow-thistle | L+ | Non-native | Forbs | 0 | 0.2 | 0.6 | 0.6 | 0 | 0 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0 | 0.3 | 0.4 | 0.3 | 0 | 0 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0 | 0.1 | 0.4 | 0.2 | 0.2 | 0 | |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 0 | 0.1 | 0.1 | 0.4 | 0.2 | 0 | |
| <i>Oenothera fruticosa</i> ssp. <i>glauca</i> | sundrops | L+ | Non-native | Forbs | 0.4 | 0 | 0 | 0 | 0 | 0 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0.2 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 0 | 0.1 | 0.1 | 0 | 0.1 | 0 | |
| <i>Chaenorhium minus</i> ssp. <i>minus</i> | dwarf snapdragon | L+ | Non-native | Forbs | 0.2 | 0 | 0 | 0 | 0 | 0 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0.1 | |
| <i>Santhus asper</i> | spiny sow-thistle | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | |
| <i>Alliaria petiolata</i> | garlic mustard | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 1.5 | 1.2 | 3.7 | 2.6 | 3.1 | 3.2 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 3.6 | 3.7 | 2.6 | 2.3 | 2.2 | 0.7 | |
| <i>Acer negundo</i> | Manitoba maple | L+? | Native | Woody | 0.1 | 0.1 | 0.4 | 0.1 | 0.2 | 0.2 | |
| <i>Rhus typhina</i> | staghorn sumach | L5 | Native | Woody | 0.2 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Vitis riparia</i> | riverbank grape | L5 | Native | Woody | 0.1 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Rosa blanda</i> | smooth wild rose | L4 | Native | Woody | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0.2 | 0 | 0.2 | 0.2 | 0 | 0 | |
| <i>Rosa canina</i> | dog rose | L+ | Non-native | Woody | 0 | 0.1 | 0 | 0.1 | 0 | 0.1 | |
| Thatch | Thatch | | | | 0 | 0 | 0 | 0 | 0 | 25.8 | |
| Bare soil | Bare soil | | | | 56.8 | 4 | 0 | 0.2 | 0 | 0 | |

Table 4. Plot 1.2P percent cover by species

| Species | CommonName | L-rank | Native or Non-native | Plant Type | 2018 | 2019* | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|---------------------------------|--------|----------------------|-------------------|------|-------|------|------|------|------|------|------|-----------------------|
| Panicum virgatum | switch grass | L3 | Native | Graminoids | 0 | 0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 80-100 |
| Andropogon gerardii | big bluestem | L3 | Native | Graminoids | 0 | 0 | 0 | 0 | 0.1 | 0 | 0.1 | 0.2 | 60-80 |
| Panicum capillare | panic grass | L5 | Native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0.2 | 0 | 0 | 40-60 |
| Elymus virginicus var. virginicus | Virginia wild rye | L5 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 20-40 |
| Sorghastrum nutans | copper savannah grass | L2 | Native | Graminoids | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 10-20 |
| Schizachyrium scoparium | little bluestem | L2 | Native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 5-10 |
| Festuca rubra ssp. rubra | red fescue | L+ | Non-native | Graminoids | 15.8 | 40 | 0.1 | 0 | 0 | 0 | 0.7 | 0.4 | 2-5 |
| Lolium pratense | meadow fescue | L+ | Non-native | Graminoids | 25 | 23.6 | 0 | 0.1 | 1.6 | 1 | 0.1 | 0 | 1-2 |
| Poa pratensis ssp. pratensis | Kentucky blue grass | L+ | Non-native | Graminoids | 12.2 | 1.1 | 1.2 | 2.2 | 3 | 7 | 4 | 0.3 | 0.1-1 |
| Dactylis glomerata | orchard grass | L+ | Non-native | Graminoids | 0.3 | 2 | 0.1 | 0.4 | 1.3 | 4.6 | 2.2 | 1.4 | 0 |
| Phleum pratense | timothy grass | L+ | Non-native | Graminoids | 1.8 | 0 | 0.6 | 1.6 | 3.5 | 3.2 | 0.7 | 0.1 | |
| Poa compressa | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0.2 | 0.8 | 1.2 | 1.5 | 2.6 | 1 | |
| Triticum aestivum | wheat | L+ | Non-native | Graminoids | 0 | 0 | 0.6 | 0.3 | 0 | 0 | 0 | 0 | |
| Avena sativa | oats | L+ | Non-native | Graminoids | 0 | 0 | 0.8 | 0 | 0 | 0 | 0 | 0 | |
| Agrostis gigantea | redtop | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0.1 | 0.6 | 0 | 0 | 0 | |
| Elymus repens | quack grass | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0.3 | 0.1 | 0.1 | 0 | 0 | |
| Panicum miliaceum | millet | L+ | Non-native | Graminoids | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | |
| Setaria pumila ssp. pumila | yellow foxtail | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| Solidago altissima | tall goldenrod | L5 | Native | Forbs | 0.2 | 0.1 | 0.4 | 2.1 | 4.6 | 16.2 | 37.2 | 57.8 | |
| Helopsis helianthoides | ox-eye | L2 | Native | Forbs | 0 | 0 | 0.1 | 0.4 | 0.7 | 0.7 | 0.8 | 1.5 | |
| Solidago ptarmicoides | upland white goldenrod | L2 | Native | Forbs | 0 | 0 | 0.1 | 0.9 | 1.2 | 1 | 0.6 | 0.4 | |
| Symphotrichum ericoides var. ericoides | heath aster | L5 | Native | Forbs | 0.1 | 0 | 0.3 | 0.2 | 0.3 | 1.1 | 1.1 | 0.8 | |
| Erigeron canadensis | horse-weed | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.1 | 0 | 0.9 | 1 | 1.5 | |
| Rudbeckia hirta | black-eyed Susan | L4 | Native | Forbs | 0 | 0 | 0.1 | 0.2 | 0.8 | 0.1 | 0.2 | 2.1 | |
| Symphotrichum novae-angliae | New England aster | L5 | Native | Forbs | 0.1 | 0.1 | 0 | 0 | 0.2 | 0.7 | 0.9 | 0.6 | |
| Symphotrichum lanceolatum var. lanceolatum | panicled aster | L5 | Native | Forbs | 0.1 | 0 | 0.1 | 0 | 0.2 | 1.4 | 0.4 | 0.1 | |
| Fragaria vesca ssp. americana | woodland strawberry | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 0.4 | 0.6 | 0.6 | |
| Fragaria virginiana ssp. virginiana | common wild strawberry | L5 | Native | Forbs | 0.8 | 0.8 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Oenothera biennis | common evening-primrose | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 0.1 | 0 | 0.8 | |
| Symphotrichum laeve var. laeve | smooth aster | L3 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.9 | |
| Monarda fistulosa | wild bergamot | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.1 | 0.4 | 0.1 | 0.1 | 0.2 | |
| Penstemon digitalis | foxglove beard-tongue | L4 | Native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 0.2 | 0.2 | 0.4 | |
| Symphotrichum cordifolium | heart-leaved aster | L5 | Native | Forbs | 0.4 | 0.5 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| Prunella vulgaris ssp. lanceolata | heal-all (native) | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0.2 | 0 | 0 | 0.1 | |
| Desmodium canadense | showy tick-trefoil | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0.1 | 0.1 | 0 | 0 | |
| Symphotrichum oolentangiense | sky-blue aster | L4 | Native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 0.1 | 0 | 0 | |
| Epilobium ciliatum ssp. ciliatum | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | |
| Erigeron annuus | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0 | |
| Linum virginianum | Virginia yellow flax | LX | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0 | |
| Sisyrinchium montanum | blue-eyed grass | L4 | Native | Forbs | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | |
| Ambrosia artemisiifolia | common ragweed | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| Asclepias syriaca | common milkweed | L5 | Native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Solanum ptychanthum | American black nightshade | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| Symphotrichum ciliolatum | Lindley's aster | L4 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| Daucus carota | Queen Anne's lace | L+ | Non-native | Forbs | 0.2 | 0.2 | 2.4 | 11.2 | 29.4 | 26.6 | 8.1 | 3.6 | |
| Taraxacum officinale | dandelion | L+ | Non-native | Forbs | 6.8 | 2.8 | 24.2 | 10.4 | 3.1 | 11.6 | 12.4 | 4.6 | |
| Medicago lupulina | black medick | L+ | Non-native | Forbs | 3.2 | 1.3 | 29.8 | 23.6 | 3.8 | 3.6 | 2.1 | 3 | |
| Trifolium pratense | red clover | L+ | Non-native | Forbs | 4.2 | 2.4 | 9.4 | 18.5 | 6.2 | 4.1 | 0.4 | 1.5 | |
| Cerastium fontanum | mouse-ear chickweed | L+ | Non-native | Forbs | 0.2 | 0.4 | 11.9 | 1.2 | 0.5 | 0.3 | 0.1 | 0.3 | |
| Linaria vulgaris | butter-and-eggs | L+ | Non-native | Forbs | 0.4 | 0.2 | 0.3 | 1.3 | 1.3 | 1.8 | 0.6 | 0.5 | |
| Plantago lanceolata | English plantain | L+ | Non-native | Forbs | 0 | 0.1 | 0.6 | 1 | 0.7 | 2.1 | 1.3 | 0.2 | |
| Vicia cracca | cow vetch | L+ | Non-native | Forbs | 0.2 | 0.3 | 0.4 | 1.4 | 0.7 | 0.5 | 0.8 | 0.8 | |
| Convolvulus arvensis | field bindweed | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0.3 | 0.8 | 1.8 | 1.4 | 0.1 | |
| Leucanthemum vulgare | ox-eye daisy | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 1.4 | 1 | 1.6 | |
| Cirsium vulgare | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 2.6 | 0 | 0.1 | 0 | 0.6 | 0.5 | |
| Cichorium intybus | chicory | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.5 | 0.8 | 0.4 | |
| Melilotus albus | white sweet clover | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 0.8 | 0.3 | 0 | 0.2 | 0.2 | |
| Sonchus arvensis ssp. arvensis | glandular perennial sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.4 | 0.2 | 0.2 | 0 | 0.4 | |
| Carduus acanthoides | plumeless thistle | L+ | Non-native | Forbs | 0 | 0 | 1 | 0.2 | 0 | 0 | 0 | 0 | |
| Tragopogon pratensis | meadow goat's beard | L+ | Non-native | Forbs | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0 | |
| Melilotus officinalis | yellow sweet clover | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.4 | 0 | 0.2 | 0 | 0 | |
| Plantago major | common plantain | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 0.3 | 0.1 | 0 | 0 | 0 | |
| taraxacum officinale | dandelion | L+ | Non-native | Forbs | 0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Potentilla recta | sulphur cinquefoil | L+ | Non-native | Forbs | 0.2 | 0.1 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| Ranunculus acris | tall buttercup | L+ | Non-native | Forbs | 0.1 | 0.2 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| Sonchus oleraceus | annual sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | |
| Chenopodium album | lamb's quarters | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | |
| Trifolium hybridum | alsike clover | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | |
| Atriplex patula | halberd-leaved orache | L+? | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| Lactuca serriola | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| Stellaria graminea | grass-leaved chickweed | L+ | Non-native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Symphotrichum ciliatum | rayless aster | L+* | Non-Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| Cirsium arvense | creeping thistle | L+ | Non-native | Targeted Invasive | 0 | 0 | 2.8 | 2.4 | 2.4 | 12.2 | 9.9 | 4.4 | |
| Cynanchum rossicum | dog-strangling vine | L+ | Non-native | Targeted Invasive | 2.9 | 5 | 0.1 | 0.2 | 0.8 | 1.2 | 1.8 | 0.6 | |
| Acer negundo | Manitoba maple | L+?* | Native | Woody | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| Vitis riparia | riverbank grape | L5 | Native | Woody | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Rhamnus cathartica | common buckthorn | L+ | Non-native | Woody | 0.5 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Morus alba | white mulberry | L+ | Non-native | Woody | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | |
| Thatch | Thatch | | | | 40 | 39 | 0 | 0.6 | 7.6 | 5.8 | 16 | 21 | |
| Bare soil | Bare soil | | | | 0 | 0 | 26.8 | 4 | 4.6 | 3.2 | 10.2 | 5.8 | |

*Only spring survey completed

Table 5. Plot 1.3Q percent cover by species

| Species | CommonName | L-rank | Native or Non-native | Plant Type | 2018 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|---------------------------------|--------|----------------------|-------------------|------|------|------|------|------|------|------|-----------------------|
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 0.1 | 3.4 | 1.7 | 1.4 | 0.6 | 0.1 | 80-100 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 2.6 | 1.1 | 2.4 | 1 | 0 | 0.1 | 60-80 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 1.6 | 0.5 | 1 | 0.8 | 0.7 | 1.2 | 40-60 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 0 | 0.7 | 0.5 | 0.8 | 0.4 | 0.3 | 20-40 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 0.3 | 0.3 | 0.2 | 0.1 | 1.4 | 0.4 | 10-20 |
| <i>Schizachyrium scoparium</i> | little bluestem | L2 | Native | Graminoids | 0 | 0 | 0 | 0.4 | 0.4 | 0 | 0 | 5-10 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 2-5 |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 4.7 | 0.1 | 0 | 0 | 0 | 0 | 1-2 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 21.4 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0.1-1 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 21 | 0 | 0 | 0 | 0.2 | 0.4 | 0 | 0 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0 | 0 | 1.2 | 2.2 | 3.6 | 0.1 | 0 | |
| <i>Digitaria sanguinalis</i> | hairy crab grass | L+ | Non-native | Graminoids | 0 | 3.6 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 2.2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| <i>Setaria pumila</i> ssp. <i>pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 0.9 | 0 | 0 | 0 | 0 | 0 | |
| <i>Triticum aestivum</i> | wheat | L+ | Non-native | Graminoids | 0 | 0.4 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 0.6 | 3.3 | 9.5 | 19.4 | 29.2 | 55.2 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 1.2 | 3.4 | 17.4 | 13.8 | 7 | 2.5 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 3.4 | 4.8 | 0.5 | 16.2 | 14.8 | 0.4 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 0 | 0.3 | 1.7 | 8.1 | 10.6 | 15.8 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 2.4 | 4.6 | 13 | 4.7 | 2.9 | 3.2 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.2 | 0.2 | 1.5 | 1.6 | 4.8 | 4.2 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 0.6 | 6 | 0.1 | 0.1 | 0.1 | 0.1 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0.2 | 4.9 | 0.1 | 0.1 | 1 | 0 | |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.5 | 3.1 | 0.1 | |
| <i>Symphytotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0 | 0 | 0.2 | 0 | 0.1 | 0.6 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0.4 | |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 0 | 0.1 | 0.2 | 0 | 0 | 0 | 0 | |
| <i>Symphytotrichum ericoides</i> var. <i>ericoides</i> | heath aster | L5 | Native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Symphytotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 9.6 | 5.4 | 34.4 | 0.5 | 0.5 | 0.1 | 0 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 7.8 | 1.1 | 3.4 | 5.4 | 10.8 | 6.6 | 2.6 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0 | 6 | 7.8 | 10.1 | 3.2 | 3.5 | 2.2 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0.4 | 1.4 | 4.2 | 14 | 4.2 | 1.9 | 1 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 1 | 2.8 | 6.6 | 1.5 | 0.1 | 0.8 | 0.2 | |
| <i>Convolvulus arvensis</i> | field bindweed | L+ | Non-native | Forbs | 0.8 | 2.8 | 1.8 | 2.2 | 3.4 | 1.2 | 0.5 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 1.1 | 0.8 | 4 | 2.8 | 2.8 | 0.6 | 0.2 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 5.9 | 2.1 | 0.2 | 1.2 | 0.5 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 1.4 | 7 | 0 | 0 | 0.6 | 0 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.4 | 0.5 | 7 | 0 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 1.4 | 0 | 0.2 | 0.4 | 0.1 | 2 | 0.2 | |
| <i>Dipsacus fullonum</i> | teasel | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 2.4 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0.8 | 0.4 | 0.2 | 0 | 0 | 0.1 | 0.1 | |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 1 | 0.5 | |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 1.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Cichorium intybus</i> | chicory | L+ | Non-native | Forbs | 0 | 0 | 0.4 | 0.2 | 0 | 0 | 0 | |
| <i>Amaranthus retroflexus</i> | red-root pigweed | L+ | Non-native | Forbs | 0 | 0.6 | 0 | 0 | 0 | 0 | 0 | |
| <i>Cerastium arvense</i> ssp. <i>arvense</i> | field chickweed | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.6 | 0 | |
| <i>Veronica arvensis</i> | corn speedwell | L+ | Non-native | Forbs | 0 | 0 | 0.3 | 0.2 | 0 | 0 | 0 | |
| <i>Sonchus arvensis</i> ssp. <i>arvensis</i> | glandular perennial sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0.1 | |
| <i>Arctium minus</i> | common burdock | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Ranunculus acris</i> | tall buttercup | L+ | Non-native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0 | 0 | 0.3 | 2.8 | 6.8 | 4.6 | 5.8 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.9 | 0.1 | 0.1 | 0.2 | 0.3 | 0.4 | 0.3 | |
| <i>Vitis riparia</i> | riverbank grape | L5 | Native | Woody | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0.2 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Catalpa speciosa</i> | northern catalpa | L+ | Non-native | Woody | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Thatch | Thatch | | | | 42 | 0 | 8 | 26 | 29 | 8.6 | 17 | |
| Bare soil | Bare soil | | | | 0 | 41.6 | 1 | 2.6 | 5.6 | 6.4 | 1.8 | |

Table 6. Plot 1.4AI percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2023 | 2024 | 2025 | Average Percent Cover |
|---|-----------------------------|--------|----------------------|-------------------|------|------|------|-----------------------|
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 21.4 | 1.6 | 0.1 | 80-100 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0.5 | 0 | 0 | 60-80 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0.2 | 0 | 0.2 | 40-60 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 0.1 | 0.1 | 20-40 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0 | 0.1 | 10-20 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 9.4 | 13.6 | 15 | 5-10 |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 2.8 | 0.6 | 0 | 2-5 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 1.4 | 1 | 0.2 | 1-2 |
| | | | | | | | | 0.1-1 |
| | | | | | | | | 0 |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 21 | 48.4 | 56.2 | |
| <i>Helopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 5.8 | 7.5 | 7.2 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 10.2 | 5.4 | 1.1 | |
| <i>Drymocallis arguta</i> | tall cinquefoil | L3 | Native | Forbs | 3.4 | 3.1 | 3.2 | |
| <i>Symphyotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicked aster | L5 | Native | Forbs | 6.3 | 2 | 0.8 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 3.8 | 1.5 | 1.5 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 3.5 | 1.5 | 1.6 | |
| <i>Verbena hastata</i> | blue vervain | L5 | Native | Forbs | 2.6 | 2 | 0.2 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 1.6 | 1.4 | 1 | |
| <i>Symphyotrichum laeve</i> var. <i>laeve</i> | smooth aster | L3 | Native | Forbs | 0.6 | 1.8 | 0.3 | |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | L4 | Native | Forbs | 0.8 | 0.6 | 0.8 | |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0.2 | 1 | |
| <i>Solidago juncea</i> | early goldenrod | L5 | Native | Forbs | 0.7 | 0 | 0 | |
| <i>Silphium perfoliatum</i> | cup-plant | L+? | Native | Forbs | 0.6 | 0 | 0 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0.1 | 0.1 | 0.2 | |
| <i>Silphium terebinthinaceum</i> | prairie dock | L+* | Native | Forbs | 0 | 0.4 | 0 | |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0.1 | 0.2 | 0 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0.1 | 0.2 | 0 | |
| <i>Potentilla norvegica</i> | rough cinquefoil | L+? | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Solidago canadensis</i> var. <i>canadensis</i> | Canada goldenrod | L5 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0.1 | 0 | 0 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0.1 | 0 | 0 | |
| <i>Solidago ptarmicoides</i> | upland white goldenrod | L2 | Native | Forbs | 0.1 | 0 | 0 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 13.8 | 5 | 0.7 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 18.4 | 0.4 | 0.4 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 1.3 | 3 | 1.2 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 1 | 0.4 | 0.3 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 1.1 | 0.1 | 0 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0.4 | 0.5 | 0.3 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 1.1 | 0 | 0 | |
| <i>Potentilla recta</i> | sulphur cinquefoil | L+ | Non-native | Forbs | 0.2 | 0.2 | 0.1 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0.4 | |
| <i>Alliaria petiolata</i> | garlic mustard | L+ | Non-native | Forbs | 0.2 | 0 | 0.1 | |
| <i>Arctium minus</i> | common burdock | L+ | Non-native | Forbs | 0 | 0.1 | 0.1 | |
| <i>Fallopia convolvulus</i> | black bindweed | L+ | Non-native | Forbs | 0.2 | 0 | 0 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0.1 | 0 | 0 | |
| <i>Medicago falcata</i> | alfalfa | L+ | Non-native | Forbs | 0 | 0 | 0.1 | |
| <i>Melilotus albus</i> | white sweet clover | L+ | Non-native | Forbs | 0.1 | 0 | 0 | |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 0 | 0 | 0.1 | |
| <i>Sisymbrium altissimum</i> | tumble mustard | L+ | Non-native | Forbs | 0.1 | 0 | 0 | |
| | | | | | | | | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 3 | 6.4 | 3.8 | |
| | | | | | | | | |
| <i>Acer negundo</i> | Manitoba maple | L+? | Native | Woody | 0.1 | 0 | 0 | |
| | | | | | | | | |
| Thatch | Thatch | | | | 4.4 | 17 | 60 | |
| Bare soil | Bare soil | | | | 0.6 | 0.6 | 1 | |

Section 2

Section 2.2

One plot was monitored in section 2.2 in 2025 (2.2S; Table 7). In 2018 and 2019, plot 2.2S contained almost exclusively non-native species; however, restoration led to the introduction of numerous native grasses and forbs. Common evening primrose (*Oenothera biennis*) and sticky willow-herb (*Epilobium ciliatum* ssp. *ciliatum*) had higher cover in previous years compared to 2025, while tall goldenrod and foxglove beard-tongue have higher covers continuing into 2025.

Section 2.3

One plot was monitored in section 2.3 (plot 2.3T; Table 8). Prior to restoration in 2020, this plot was dominated by non-native grasses such as meadow fescue (*Lolium pratense*) (45% cover) and Kentucky blue grass (26.4% cover). Post-restoration, many of these non-native species decreased to near zero covers, with many more native species occurring and establishing. Tall goldenrod cover increased from 0.2% pre-restoration to 78% post-restoration in 2025.

Section 2.4

One plot was monitored in section 2.4 (plot 2.4U; Table 9). Similar to section 2.3, non-native graminoids and forbs dominated the plot pre-restoration. Post-restoration in 2025, the plot was dominated by switchgrass (*Panicum virgatum*; 30.8%) and tall goldenrod (24%).

Table 7. Plot 2.2S percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2018 | 2019* | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|---|---------------------------------|--------|----------------------|-------------------|------|-------|------|------|------|------|------|-----------------------|
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 0 | 0.7 | 3.8 | 6.8 | 0.7 | 0.3 | 80-100 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0 | 0.4 | 1.4 | 2.2 | 6.2 | 1.7 | 60-80 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 0 | 0 | 0.2 | 1.4 | 0 | 0 | 40-60 |
| <i>Carex vulpinoidea</i> | fox sedge | L5 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.8 | 20-40 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0 | 1.2 | 0 | 0 | 0 | 0 | 10-20 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 5-10 |
| <i>Juncus dudleyi</i> | Dudley's rush | L5 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 2-5 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 12 | 24 | 0.4 | 0.6 | 8 | 3.6 | 13.1 | 1-2 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 32 | 18.6 | 0 | 0 | 0 | 0 | 0 | 0.1-1 |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 19.4 | 31 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Agrostis stolonifera</i> | creeping bent grass | L+? | Non-native | Graminoids | 0 | 0 | 0.1 | 0.8 | 5 | 3.8 | 2 | |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 1.8 | 2.5 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Agrostis gigantea</i> | redtop | L+ | Non-native | Graminoids | 2 | 0 | 0 | 0 | 0 | 0 | 0.4 | |
| <i>Poa annua</i> | annual blue grass | L+ | Non-native | Graminoids | 0 | 0 | 2.4 | 0 | 0 | 0 | 0 | |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 0 | 0.8 | 0 | 0 | 0 | 0 | 0 | |
| <i>Triticum aestivum</i> | wheat | L+ | Non-native | Graminoids | 0 | 0 | 0.3 | 0.4 | 0.1 | 0 | 0 | |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 0 | 29.6 | 4.3 | 16.6 | 22.6 | 0.8 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 0 | 0.3 | 1.8 | 6 | 8.8 | 23 | |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | L4 | Native | Forbs | 0 | 0 | 1.7 | 3.4 | 4.2 | 13.8 | 13.6 | |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 8.8 | 22.6 | 1.5 | |
| <i>Symphyotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0 | 0 | 0.1 | 1.7 | 9.1 | 9.6 | 7.4 | |
| <i>Verbena hastata</i> | blue vervain | L5 | Native | Forbs | 0 | 0 | 1.2 | 4.6 | 4.6 | 2.8 | 0.4 | |
| <i>Equisetum arvense</i> | field horsetail | L5 | Native | Forbs | 0.1 | 0 | 1.5 | 2 | 3 | 4 | 0.6 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0 | 0.6 | 1 | 2.4 | 2.4 | 3.3 | |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 0 | 1 | 3 | 1.4 | 2.4 | 1 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 0 | 1.1 | 2 | 2.1 | 1.4 | 1.8 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 0 | 2.3 | 4.4 | 0.5 | 0.5 | 0.3 | |
| <i>Symphyotrichum laeve</i> var. <i>laeve</i> | smooth aster | L3 | Native | Forbs | 0 | 0 | 0.4 | 1.6 | 2.3 | 1.6 | 1.5 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0 | 0 | 5.8 | 0.4 | 0 | 0 | |
| <i>Ambrasia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 0 | 2.2 | 0.6 | 1.5 | 0.2 | 0.1 | |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.4 | 2.1 | |
| <i>Penstemon hirsutus</i> | hairy beard-tongue | L3 | Native | Forbs | 0 | 0 | 1.3 | 0.6 | 0.2 | 0.1 | 0 | |
| <i>Fragaria vesca</i> ssp. <i>americana</i> | woodland strawberry | L5 | Native | Forbs | 0 | 0 | 0 | 0.2 | 0.6 | 0.4 | 0 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.5 | 0.1 | 0.1 | 0.2 | |
| <i>Solidago ptarmicoides</i> | upland white goldenrod | L2 | Native | Forbs | 0 | 0 | 0.5 | 0.3 | 0 | 0 | 0 | |
| <i>Drymacallis arguta</i> | tall cinquefoil | L3 | Native | Forbs | 0 | 0 | 0.5 | 0 | 0 | 0.1 | 0 | |
| <i>Solidago nemoralis</i> ssp. <i>nemoralis</i> | grey goldenrod | L5 | Native | Forbs | 0 | 0 | 0.2 | 0.3 | 0 | 0 | 0 | |
| <i>Fragaria virginiana</i> ssp. <i>virginiana</i> | common wild strawberry | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | |
| <i>Salanum ptychanthum</i> | American black nightshade | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.4 | 0 | 0 | |
| <i>Acalypha rhomboidea</i> | three-seeded mercury | L5 | Native | Forbs | 0 | 0 | 0.2 | 0 | 0.1 | 0 | 0 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | |
| <i>Lepidium virginicum</i> | Virginia pepper-grass | L4 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Pycnanthemum virginianum</i> | Virginia mountain-mint | L3 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 1.8 | 1 | 9.4 | 10.6 | 0.3 | 0.1 | 0 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 9.2 | 4.2 | 1.2 | 1.8 | 1.7 | 0.8 | 1.7 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 0 | 18.4 | 0.5 | 0 | 0 | 0 | |
| <i>Stellaria graminea</i> | grass-leaved chickweed | L+ | Non-native | Forbs | 0.3 | 0 | 6.4 | 7.7 | 1.2 | 0.1 | 0 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0 | 0 | 1.2 | 2.5 | 4.6 | 1.5 | 0.4 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0.5 | 0 | 2.7 | 1.5 | 5.3 | 0.1 | 0 | |
| <i>Trifolium hybridum</i> | alsike clover | L+ | Non-native | Forbs | 0.1 | 0 | 0 | 4.6 | 4.8 | 0 | 0 | |
| <i>Fallugia convolvulus</i> | black bindweed | L+ | Non-native | Forbs | 0 | 0 | 5.8 | 0.4 | 0.2 | 0.1 | 0 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.2 | 0.1 | 2 | 3.2 | 0.6 | 0.2 | 0.1 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 0 | 3.2 | 2.7 | 0.1 | 0 | |
| <i>Santhus asper</i> | spiny sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 1.2 | 2.3 | 0.1 | 0 | 0 | |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 0 | 0.4 | 1.2 | 0.4 | 0.2 | 0 | |
| <i>Persicaria maculosa</i> | lady's thumb | L+ | Non-native | Forbs | 0 | 0 | 1.2 | 0.6 | 0 | 0 | 0 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.4 | 0.5 | 0.7 | |
| <i>Amaranthus albus</i> | tumbleweed | L+ | Non-native | Forbs | 0 | 0 | 1.4 | 0 | 0 | 0 | 0 | |
| <i>Sisymbrium altissimum</i> | tumble mustard | L+ | Non-native | Forbs | 0 | 0 | 0 | 1.2 | 0.2 | 0 | 0 | |
| <i>Ranunculus acris</i> | tall buttercup | L+ | Non-native | Forbs | 0.3 | 0.5 | 0 | 0 | 0.1 | 0.2 | 0.2 | |
| <i>Chaenorhinum minus</i> ssp. <i>minus</i> | dwarf snapdragon | L+ | Non-native | Forbs | 0 | 0 | 0.8 | 0.1 | 0 | 0 | 0 | |
| <i>Thlaspi arvense</i> | penny-cress | L+ | Non-native | Forbs | 0 | 0 | 0.6 | 0.2 | 0 | 0 | 0 | |
| <i>Erysimum cheiranthoides</i> | wormseed mustard | L+ | Non-native | Forbs | 0 | 0 | 0.6 | 0.1 | 0 | 0 | 0 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 0 | 0.2 | 0.2 | 0 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.4 | 0.2 | 0 | 0 | 0 | 0 | 0 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0.1 | 0.2 | 0.1 | |
| <i>Veronica serpyllifolia</i> ssp. <i>serpyllifolia</i> | thyme-leaved speedwell | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 0 | 0 | 0.1 | 0.1 | |
| <i>Dipsacus fullonum</i> | teasel | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 0 | 0 | |
| <i>Polygonum achoreum</i> | striae knotweed | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | |
| <i>Santhus arvensis</i> ssp. <i>arvensis</i> | glandular perennial sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 0 | 0 | |
| <i>Rumex obtusifolius</i> | bitter dock | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0.5 | 0.2 | 14.9 | 13.8 | 5.4 | 5.6 | 7.4 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.4 | 0.3 | 0 | 0 | 0 | 0 | 0 | |
| <i>Acer negundo</i> | Manitoba maple | L+?* | Native | Woody | 0.2 | 0 | 0 | 0.1 | 0 | 0.1 | 0 | |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0.2 | 0.2 | 0 | 0 | 0 | 0 | 0 | |
| <i>Acer platanoides</i> | Norway maple | L+ | Non-native | Woody | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Malus pumila</i> | apple | L+ | Non-native | Woody | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| Thatch | Thatch | | | | 43 | 28.8 | 0 | 4.6 | 18 | 4.4 | 37 | |
| Bare soil | Bare soil | | | | 0 | 0 | 17.8 | 0.6 | 14.4 | 3.8 | 4 | |

*Only spring survey completed

Table 8. Plot 2.3T percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2018 | 2019* | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|---|---------------------------------|--------|----------------------|-------------------|------|-------|------|------|------|------|------|-----------------------|
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 0 | 0.9 | 9.4 | 6.4 | 1.4 | 0.2 | 80-100 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0 | 0.6 | 1.1 | 2.8 | 0.3 | 0.1 | 60-80 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0.2 | 0.3 | 40-60 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0 | 0 | 0 | 0.4 | 0 | 0 | 20-40 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 10-20 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 5-10 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 41.2 | 45 | 0 | 0 | 0 | 0 | 0 | 2-5 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 7.6 | 26.4 | 0 | 0.5 | 1.6 | 1.1 | 1.2 | 1-2 |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 2.4 | 5.6 | 0.5 | 3.5 | 0.5 | 0.8 | 0 | 0.1-1 |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 1 | 1.1 | 2.2 | 1.5 | 0 |
| <i>Agrastis gigantea</i> | redtop | L+ | Non-native | Graminoids | 1.3 | 0 | 0 | 2 | 1.3 | 0.4 | 0.2 | |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0.1 | 0 | 0.2 | 0 | 2.8 | 0 | 0 | |
| <i>Panicum miliaceum</i> | millet | L+ | Non-native | Graminoids | 0 | 0 | 2.9 | 0 | 0 | 0 | 0 | |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 0.6 | 0.8 | 0 | 0 | 0 | 0 | 0 | |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | |
| <i>Carex spicata</i> | spiked sedge | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0.1 | |
| <i>Agrastis stolonifera</i> | creeping bent grass | L+? | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Triticum aestivum</i> | wheat | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0.2 | 0 | 3 | 19.2 | 42 | 38 | 28 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 0 | 10 | 3.1 | 5.4 | 5.3 | 0.3 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 0 | 1.4 | 11.6 | 1 | 0.9 | 0.3 | |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0 | 0.8 | 4 | 7.2 | 3 | |
| <i>Verbena hastata</i> | blue vervain | L5 | Native | Forbs | 0 | 0 | 0.5 | 5 | 5.1 | 1.3 | 0.2 | |
| <i>Symphyotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicked aster | L5 | Native | Forbs | 0 | 0 | 0.1 | 1 | 4.8 | 3.6 | 2.5 | |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 0 | 0 | 1.2 | 3.8 | 1.1 | 0.6 | |
| <i>Symphyotrichum laeve</i> var. <i>laeve</i> | smooth aster | L3 | Native | Forbs | 0 | 0 | 0.5 | 1 | 2 | 0.3 | 1.5 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 0 | 1.3 | 1.2 | 1.8 | 0.3 | 0.3 | |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 1.3 | 1.4 | 2.1 | |
| <i>Fragaria virginiana</i> ssp. <i>virginiana</i> | common wild strawberry | L5 | Native | Forbs | 1.8 | 2.4 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | L4 | Native | Forbs | 0 | 0 | 0.4 | 0.5 | 0.8 | 1 | 1 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0 | 0.2 | 0.2 | 0.6 | 1 | 0.8 | |
| <i>Lepidium virginicum</i> | Virginia pepper-grass | L4 | Native | Forbs | 0 | 0 | 0 | 1.8 | 0.1 | 0.1 | 0 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 0 | 0.4 | 1.2 | 0.2 | 0.1 | 0.1 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0 | 0 | 0.9 | 0.2 | 0.3 | 0 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.6 | 0.4 | 0.1 | 0.2 | |
| <i>Fragaria vesca</i> ssp. <i>americana</i> | woodland strawberry | L5 | Native | Forbs | 0 | 0 | 0 | 0.4 | 0.4 | 0.4 | 0.1 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0.1 | 0 | 0.6 | 0 | 0 | 0.4 | 0.2 | |
| <i>Drymocallis arguta</i> | tall cinquefoil | L3 | Native | Forbs | 0 | 0 | 0.5 | 0 | 0.2 | 0 | 0 | |
| <i>Solidago ptarmicoides</i> | upland white goldenrod | L2 | Native | Forbs | 0 | 0 | 0.5 | 0 | 0 | 0 | 0 | |
| <i>Penstemon hirsutus</i> | hairy beard-tongue | L3 | Native | Forbs | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | |
| <i>Patentilla norvegica</i> | rough cinquefoil | L+?* | Native | Forbs | 0 | 0 | 0 | 0.2 | 0 | 0.1 | 0.1 | |
| <i>Euthamia graminifolia</i> | grass-leaved goldenrod | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0.2 | |
| <i>Geum aleppicum</i> | yellow avens | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 | |
| <i>Symphyotrichum ericoides</i> var. <i>ericoides</i> | heath aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0.1 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Galium aparine</i> | cleavers | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Solidago nemoralis</i> ssp. <i>nemoralis</i> | grey goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 0 | 0.5 | 0.1 | 0.2 | 0 | 0 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0.1 | 0.1 | 6.6 | 9.2 | 3.2 | 2.6 | 0.6 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 6.6 | 6 | 3.2 | 3.4 | 1.4 | 0.1 | 0.1 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 7.2 | 2.7 | 1 | 2.9 | 1.3 | 0.5 | 1.8 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 0 | 6 | 1.1 | 0 | 0 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0.8 | 0.9 | 2.8 | 0.7 | 0.4 | 0.3 | 0 | |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 0 | 0 | 2.1 | 0.1 | 1.9 | 1.6 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.4 | 0.6 | 1.2 | 1.7 | 0.6 | 0.5 | 0.3 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0.1 | 0 | 0.4 | 2.2 | 1.2 | 0.6 | 0.2 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.8 | 1.1 | 0 | 0.3 | 0.4 | 0.5 | 0.3 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 1.2 | 1.2 | 0.7 | 0.1 | 0.1 | |
| <i>Ranunculus acris</i> | tall buttercup | L+ | Non-native | Forbs | 1 | 1.3 | 0 | 0 | 0 | 0 | 0 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0.6 | 0.4 | 0.2 | 0 | 0.1 | 0.3 | 0 | |
| <i>Prunella vulgaris</i> | heal-all | L+? | Non-native | Forbs | 0.6 | 0.8 | 0 | 0 | 0 | 0 | 0 | |
| <i>Sonchus asper</i> | spiny sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.4 | 0.5 | 0.1 | 0 | |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 0 | 0.6 | 0.2 | 0.2 | 0 | 0 | |
| <i>Fallopia convolvulus</i> | black bindweed | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.4 | 0.1 | 0.1 | 0 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0.4 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Sisymbrium altissimum</i> | tumble mustard | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.3 | 0 | 0 | 0 | |
| <i>Sisymbrium officinale</i> | hedge mustard | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.3 | 0 | 0 | 0 | |
| <i>Sonchus arvensis</i> ssp. <i>arvensis</i> | glandular perennial sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | |
| <i>Arctium minus</i> | common burdock | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Atriplex patula</i> | halberd-leaved orache | L+? | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Chaenorhinum minus</i> ssp. <i>minus</i> | dwarf snapdragon | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Geum urbanum</i> | urban avens | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Lythrum salicaria</i> | purple loosestrife | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Melilotus albus</i> | white sweet clover | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Tussilago farfara</i> | coltsfoot | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0.4 | 0 | 1.9 | 5.9 | 4.2 | 3.7 | 3.6 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 2.8 | 2.4 | 0.2 | 0 | 0 | 0.1 | 0.1 | |
| <i>Acer negundo</i> | Manitoba maple | L+?* | Native | Woody | 0.2 | 0.2 | 0.1 | 0.3 | 0.1 | 0 | 0 | |
| <i>Rhus typhina</i> | staghorn sumach | L5 | Native | Woody | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0.3 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Ailanthus altissima</i> | tree-of-heaven | L+ | Non-native | Woody | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| Thatch | Thatch | #N/A | #N/A | #N/A | 10.2 | 15 | 0 | 8 | 48 | 42 | 24 | |
| Bare soil | Bare soil | #N/A | #N/A | #N/A | 0.2 | 0 | 0 | 2.8 | 0 | 0 | 0 | |

*Only spring survey completed

Table 9. Plot 2.4U percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2018 | 2019 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|---|---------------------------------|--------|----------------------|-------------------|------|------|------|------|------|------|------|-----------------------|
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0 | 8.2 | 33 | 42.7 | 36.6 | 30.8 | 80-100 |
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 0 | 0.2 | 10.1 | 6 | 0.6 | 0.1 | 60-80 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0 | 8.2 | 0 | 0 | 0 | 0 | 40-60 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 0 | 0 | 0.6 | 0.4 | 0.1 | 0.1 | 20-40 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 0 | 0.4 | 0.2 | 0.4 | 0 | 0 | 10-20 |
| <i>Juncus dudleyi</i> | Dudley's rush | L5 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 | 5-10 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0 | 0.1 | 0 | 0.1 | 0 | 0 | 2-5 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 49 | 52 | 0 | 0 | 0 | 0 | 0 | 1-2 |
| <i>Agrostis stolonifera</i> | creeping bent grass | L+? | Non-native | Graminoids | 0 | 0 | 0.9 | 9.8 | 17 | 24.6 | 17.4 | 0.1-1 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 27 | 25 | 0 | 0.6 | 1.2 | 0.2 | 1.2 | 0 |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 6.2 | 0.5 | 0 | 1.4 | 1.4 | 0.2 | 0.1 | |
| <i>Panicum miliaceum</i> | millet | L+ | Non-native | Graminoids | 0 | 0 | 6.4 | 0 | 0 | 0 | 0 | |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0.9 | 1.2 | 1.8 | 1 | |
| <i>Carex spicata</i> | spiked sedge | L+ | Non-native | Graminoids | 0.4 | 0 | 0.1 | 0 | 0.8 | 2 | 1.2 | |
| <i>Agrostis gigantea</i> | redtop | L+ | Non-native | Graminoids | 1.2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 0 | 0.7 | 0 | 0 | 0 | 0 | |
| <i>Digitaria sanguinalis</i> | hairy crab grass | L+ | Non-native | Graminoids | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | |
| <i>Poa annua</i> | annual blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 0 | 0.5 | 4.5 | 9.4 | 14.4 | 24 | |
| <i>Symphyotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicked aster | L5 | Native | Forbs | 0 | 0 | 0.1 | 5 | 12.2 | 13 | 7.2 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 0 | 17.4 | 6.7 | 0 | 0.1 | 0 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 0 | 16.2 | 4.3 | 0.6 | 0.2 | 0 | |
| <i>Euthamia graminifolia</i> | grass-leaved goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 1.6 | 6 | 1.4 | 0.4 | |
| <i>Verbena hastata</i> | blue vervain | L5 | Native | Forbs | 0 | 0 | 4 | 1.4 | 0.7 | 0.5 | 0 | |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0.1 | 3 | 0.9 | 0.7 | 0.2 | |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | L4 | Native | Forbs | 0 | 0 | 0.4 | 1.7 | 0.7 | 0.5 | 0.4 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0 | 0.5 | 1 | 0 | 0.2 | 0.7 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 0 | 2.4 | 0 | 0 | 0 | 0 | |
| <i>Silphium perfoliatum</i> | cup-plant | L+? | Native | Forbs | 0 | 0 | 0.8 | 1 | 0 | 0 | 0 | |
| <i>Symphyotrichum laeve</i> var. <i>laeve</i> | smooth aster | L3 | Native | Forbs | 0 | 0 | 0.4 | 0.8 | 0.2 | 0.1 | 0 | |
| <i>Fragaria virginiana</i> ssp. <i>virginiana</i> | common wild strawberry | L5 | Native | Forbs | 0 | 0 | 0 | 0.4 | 0.6 | 0.4 | 0.1 | |
| <i>Penstemon hirsutus</i> | hairy beard-tongue | L3 | Native | Forbs | 0 | 0 | 1.1 | 0.1 | 0 | 0 | 0 | |
| <i>Drymonia arguta</i> | tall cinquefoil | L3 | Native | Forbs | 0 | 0 | 0.4 | 0.1 | 0 | 0 | 0 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0 | 0 | 0.4 | 0 | 0 | 0 | |
| <i>Solidago nemoralis</i> ssp. <i>nemoralis</i> | grey goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 0.3 | 0 | 0 | 0 | |
| <i>Solidago ptarmicoides</i> | upland white goldenrod | L2 | Native | Forbs | 0 | 0 | 0.3 | 0 | 0 | 0 | 0 | |
| <i>Equisetum arvense</i> | field horsetail | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | |
| <i>Helianthus annuus</i> | ox-eye | L2 | Native | Forbs | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Solanum ptychanthum</i> | American black nightshade | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 13.8 | 5 | 3.2 | 6.8 | 5.2 | 1.9 | 0.2 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0 | 0 | 2.6 | 4.9 | 5.8 | 0 | 0.1 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 2.4 | 0.6 | 3.9 | 4.3 | 0.1 | 0 | 0 | |
| <i>Ranunculus acris</i> | tall buttercup | L+ | Non-native | Forbs | 2.1 | 2.4 | 0.4 | 3 | 1.2 | 0.3 | 0.3 | |
| <i>Sonchus arvensis</i> ssp. <i>arvensis</i> | glandular perennial sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 3 | 2.6 | 0.2 | 0.2 | |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 0 | 0 | 2 | 3.4 | 0.6 | 0 | 0 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0.4 | 0.2 | 2.6 | 1 | 0.3 | 0 | 0 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.1 | 0.2 | 1.9 | 1.7 | 0.2 | 0 | 0 | |
| <i>Sonchus asper</i> | spiny sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 2.4 | 0.8 | 0 | 0 | 0 | |
| <i>Trifolium hybridum</i> | alsike clover | L+ | Non-native | Forbs | 0.3 | 0 | 0 | 2.2 | 0.1 | 0 | 0 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0 | 0 | 1.7 | 0.5 | 0.1 | 0.1 | 0 | |
| <i>Fallopia convolvulus</i> | black bindweed | L+ | Non-native | Forbs | 0 | 0 | 1.1 | 0.2 | 0 | 0 | 0 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.4 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0.2 | 0 | 0 | 0 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.3 | 0 | 0 | 0 | |
| <i>Cichorium intybus</i> | chicory | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | |
| <i>Persicaria maculosa</i> | lady's thumb | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | |
| <i>Atriplex patula</i> | halberd-leaved orache | L+? | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Epilobium parviflorum</i> | small-flowered willow-herb | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Lythrum salicaria</i> | purple loosestrife | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0 | 0 | 0 | 1.1 | 3.6 | 1.7 | 2.6 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Acer negundo</i> | Manitoba maple | L+? | Native | Woody | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | |
| <i>Ulmus pumila</i> | Siberian elm | L+ | Non-native | Woody | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| Thatch | Thatch | | | | 33.4 | 11.6 | 0 | 3 | 79 | 79 | 5 | |
| Bare soil | Bare soil | | | | 0.4 | 0 | 27.2 | 0 | 0 | 0.8 | 0 | |

*Only spring survey completed

Section 3

Sections 3.2 and 3.3 were monitored for the first time in 2020 (vegetation plots 3.2AA and 3.3AB) and represented pre-management, turfgrass communities. Plots primarily contained meadow fescue and Kentucky blue grass. No management activities occurred in this section in 2020 or 2021 and the plots were not monitored 2021-2023. In 2025, both plots were monitored providing data from the second growing season post-seeding.

Section 3.2

Section 3.2 was unique for pre-restoration areas with several naturally occurring native species including golden-fruited sedge (*Carex aurea*), blue-eyed grass (*Sisyrinchium montanum*), plantain-leaved pussytoes (*Antennaria parlinii* ssp. *fallax*), and Howell's pussytoes (*Antennaria howellii* ssp. *howellii*). By 2025, native grasses dominated (compared to non-native grasses) including panic grass (5.5%) and Virginia wild rye (*Elymus virginicus* var. *virginicus*; 3.7%; Table 10). Tall goldenrod was the dominant native forb (19.4%) with lower amounts of several other native forbs including ox-eye (7.7%) and cup-plant (7.5%).

Section 3.3

In contrast to plot 3.2AA, plot 3.2AB was dominated by Virginia wild rye (19.8%) and had relatively low cover of tall goldenrod (6.5%; Table 11). Panicked aster (*Symphotrichum lanceolatum* var. *lanceolatum*) also had a comparatively high cover in this plot (10%) relative to other plots.

Table 10. Plot 3.2AA percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2020 | 2024 | 2025 |
|---|-----------------------------|--------|----------------------|-------------------|------|------|------|
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 4.6 | 3.7 |
| <i>Juncus tenuis</i> | path rush | L5 | Native | Graminoids | 7 | 0.2 | 0.2 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 5.5 | 0 |
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 1 | 0.3 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0.4 | 0.3 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 0.3 | 0.3 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0 | 0.1 |
| <i>Carex aurea</i> | golden-fruited sedge | L4 | Native | Graminoids | 0 | 0.1 | 0 |
| <i>Carex granularis</i> | meadow sedge | L5 | Native | Graminoids | 0 | 0 | 0.1 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 16.6 | 0 | 0 |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 14.4 | 0 | 0 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 13.2 | 0 | 0 |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 8.8 | 0 | 0 |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 4.4 | 0.3 | 0.3 |
| <i>Agrostis stolonifera</i> | creeping bent grass | L+? | Non-native | Graminoids | 0 | 0.6 | 0.5 |
| <i>Setaria viridis</i> | green foxtail | L+ | Non-native | Graminoids | 0 | 0.6 | 0 |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 0.5 | 0 |
| <i>Setaria pumila</i> ssp. <i>pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0.1 | 0.3 | 0 |
| <i>Digitaria sanguinalis</i> | hairy crab grass | L+ | Non-native | Graminoids | 0 | 0.1 | 0 |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0.1 | 0 |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 24 | 0.7 |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0.2 | 4.6 | 19.4 |
| <i>Silphium perfoliatum</i> | cup-plant | L+? | Native | Forbs | 0 | 10 | 7.5 |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 4.2 | 7.7 |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0.1 | 7.6 | 2.7 |
| <i>Prunella vulgaris</i> ssp. <i>lanceolata</i> | heal-all (native) | L5 | Native | Forbs | 7.4 | 0.8 | 1.4 |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 4 | 5.2 |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 8 | 0.1 |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 2 | 5.9 |
| <i>Symphyotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0.2 | 1.6 | 2.9 |
| <i>Fragaria virginiana</i> ssp. <i>virginiana</i> | common wild strawberry | L5 | Native | Forbs | 2.8 | 0.5 | 0.5 |
| <i>Euthamia graminifolia</i> | grass-leaved goldenrod | L5 | Native | Forbs | 0 | 1.4 | 1.5 |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 2 | 0.7 |
| <i>Verbena stricta</i> | hoary vervain | L3 | Native | Forbs | 0 | 1.3 | 1.1 |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | L4 | Native | Forbs | 0 | 0.5 | 1.2 |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0.5 | 0.7 |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.4 | 0.2 |
| <i>Asclepias tuberosa</i> | butterfly milkweed | LX | Native | Forbs | 0 | 0.2 | 0.4 |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0.1 | 0.1 | 0.4 |
| <i>Sisyrinchium montanum</i> | blue-eyed grass | L4 | Native | Forbs | 0.3 | 0.2 | 0 |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0.1 | 0.1 | 0.2 |
| <i>Potentilla norvegica</i> | rough cinquefoil | L+? | Native | Forbs | 0 | 0.2 | 0.2 |
| <i>Symphyotrichum laeve</i> var. <i>laeve</i> | smooth aster | L3 | Native | Forbs | 0 | 0.2 | 0.2 |
| <i>Coreopsis lanceolata</i> | lance-leaved coreopsis | L+* | Native | Forbs | 0 | 0.2 | 0.1 |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 0 | 0.2 | 0.1 |
| <i>Drymocallis arguta</i> | tall cinquefoil | L3 | Native | Forbs | 0 | 0.1 | 0.2 |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0.2 | 0.1 |
| <i>Penstemon hirsutus</i> | hairy beard-tongue | L3 | Native | Forbs | 0 | 0.2 | 0.1 |
| <i>Symphyotrichum ericoides</i> var. <i>ericoides</i> | heath aster | L5 | Native | Forbs | 0.1 | 0 | 0.2 |
| <i>Viola sororia</i> var. <i>sororia</i> | common blue violet | L5 | Native | Forbs | 0 | 0.1 | 0.2 |
| <i>Erigeron philadelphicus</i> var. <i>philadelphicus</i> | Philadelphia fleabane | L5 | Native | Forbs | 0 | 0.1 | 0.1 |
| <i>Lespedeza capitata</i> | round-headed bush-clover | L3 | Native | Forbs | 0 | 0.2 | 0 |
| <i>Solidago gigantea</i> | smooth goldenrod | L5 | Native | Forbs | 0 | 0 | 0.2 |
| <i>Veronica peregrina</i> ssp. <i>peregrina</i> | purslane speedwell | L+? | Native | Forbs | 0 | 0.2 | 0 |
| <i>Plantago rugelii</i> | red-stemmed plantain | L5 | Native | Forbs | 0 | 0 | 0.1 |
| <i>Pycnanthemum virginianum</i> | Virginia mountain-mint | L3 | Native | Forbs | 0 | 0.1 | 0 |
| <i>Solidago nemoralis</i> ssp. <i>nemoralis</i> | grey goldenrod | L5 | Native | Forbs | 0 | 0.1 | 0 |
| <i>Verbena hastata</i> | blue vervain | L5 | Native | Forbs | 0 | 0 | 0.1 |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 6.4 | 3.2 | 1.4 |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 7.6 | 0.9 | 0.8 |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 2.8 | 1.6 | 0.1 |
| <i>Veronica serpyllifolia</i> ssp. <i>serpyllifolia</i> | thyme-leaved speedwell | L+ | Non-native | Forbs | 0 | 2.4 | 0.9 |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 1 | 1 | 1.2 |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0.4 | 2.2 | 0.6 |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0.2 | 1.8 | 1 |
| <i>Ranunculus acris</i> | tall buttercup | L+ | Non-native | Forbs | 2.2 | 0.1 | 0.4 |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 1.2 | 0.8 | 0.6 |
| <i>Artemisia vulgaris</i> | common mugwort | L+ | Non-native | Forbs | 0 | 0.9 | 1.4 |
| <i>Leucanthemum vulgare</i> | ox-eye daisy | L+ | Non-native | Forbs | 0.1 | 0.4 | 0.6 |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 0.6 | 0.2 | 0.1 |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0.1 | 0.5 | 0.3 |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.6 | 0.1 | 0.2 |
| <i>Mellilotus albus</i> | white sweet clover | L+ | Non-native | Forbs | 0 | 0.6 | 0.2 |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 0.4 | 0 |
| <i>Glechoma hederacea</i> | creeping Charlie | L+ | Non-native | Forbs | 0 | 0.2 | 0.2 |
| <i>Chaenorhinum minus</i> ssp. <i>minus</i> | dwarf snapdragon | L+ | Non-native | Forbs | 0 | 0.1 | 0 |
| <i>Nepeta cataria</i> | catnip | L+ | Non-native | Forbs | 0 | 0.1 | 0 |
| <i>Persicaria hydropiper</i> | water-pepper | L+? | Non-native | Forbs | 0 | 0.1 | 0 |
| <i>Persicaria maculosa</i> | lady's thumb | L+ | Non-native | Forbs | 0 | 0 | 0.1 |
| <i>Pilosella caespitosa</i> | yellow hawkweed | L+ | Non-native | Forbs | 0 | 0 | 0.1 |
| <i>Sagina procumbens</i> | pearlwort | L+ | Non-native | Forbs | 0 | 0.1 | 0 |
| <i>Sonchus oleraceus</i> | annual sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 0.1 |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 0.1 | 0 |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0.1 | 19.4 | 8.4 |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 2 | 0.2 | 0.1 |
| <i>Acer negundo</i> | Manitoba maple | L+? | Native | Woody | 0.2 | 0.3 | 0 |
| <i>Betula papyrifera</i> | paper birch | L4 | Native | Woody | 0 | 0.1 | 0 |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0.2 | 0 | 0 |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0 | 0.1 | 0 |
| Bare soil | Bare soil | | | | 0 | 71 | 8.4 |
| Thatch | Thatch | | | | 46 | 0 | 4.4 |

| Average Percent Cover |
|-------------------------------|
| 80-100 |
| 60-80 |
| 40-60 |
| 20-40 |
| 10-20 |
| 5-10 |
| 2-5 |
| 1-2 |
| 0.1-1 |
| 0 |
| |
| *Only spring survey completed |

Table 11. Plot 3.3AB percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2020 | 2024 | 2025 | Average Percent Cover |
|---|---------------------------------|--------|----------------------|-------------------|------|------|------|-----------------------|
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 7.2 | 19.8 | 80-100 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 4.6 | 0 | 60-80 |
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 0.9 | 2.8 | 40-60 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0.2 | 0.5 | 20-40 |
| <i>Juncus bufonius</i> | toad rush | L5 | Native | Graminoids | 0 | 0.1 | 0 | 10-20 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 0 | 0.1 | 5-10 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 31.4 | 0.2 | 2.2 | 2-5 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 26.6 | 0 | 0 | 1-2 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0 | 9.4 | 0 | 0.1-1 |
| <i>Agrostis stolonifera</i> | creeping bent grass | L+? | Non-native | Graminoids | 5.6 | 0.6 | 2 | 0 |
| <i>Lolium perenne</i> | perennial rye | L+ | Non-native | Graminoids | 0 | 5 | 1.4 | |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 2.9 | 0 | |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 2.2 | 0 | 0 | |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 2.1 | 0 | 0 | |
| <i>Setaria pumila</i> ssp. <i>pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 2 | 0 | |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 1 | 0 | 0 | |
| <i>Triticum aestivum</i> | wheat | L+ | Non-native | Graminoids | 0 | 0.1 | 0 | |
| <i>Symphyotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicked aster | L5 | Native | Forbs | 0 | 6 | 10 | |
| <i>Silphium perfoliatum</i> | cup-plant | L+?* | Native | Forbs | 0 | 9 | 5.1 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 11.6 | 0 | |
| <i>Helianthus annuus</i> | ox-eye | L2 | Native | Forbs | 0 | 4.6 | 5 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 2.4 | 6.5 | |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 2.2 | 5.4 | |
| <i>Eupatorium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 3 | 1 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 2.4 | 1 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 2.2 | 0 | |
| <i>Prunella vulgaris</i> ssp. <i>lanceolata</i> | heal-all (native) | L5 | Native | Forbs | 0 | 1.4 | 0.6 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 1.2 | 0.2 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 1.1 | 0.2 | |
| <i>Verbena stricta</i> | hoary vervain | L3 | Native | Forbs | 0 | 1 | 0.2 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0.4 | 0.4 | |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | L4 | Native | Forbs | 0 | 0.3 | 0.5 | |
| <i>Symphyotrichum laeve</i> var. <i>laeve</i> | smooth aster | L3 | Native | Forbs | 0 | 0.4 | 0.4 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 0 | 0.6 | |
| <i>Symphyotrichum ericoides</i> var. <i>ericoides</i> | heath aster | L5 | Native | Forbs | 0 | 0.6 | 0 | |
| <i>Penstemon hirsutus</i> | hairy beard-tongue | L3 | Native | Forbs | 0 | 0.2 | 0.3 | |
| <i>Veronica peregrina</i> ssp. <i>peregrina</i> | purslane speedwell | L+?* | Native | Forbs | 0 | 0.5 | 0 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.3 | 0.1 | |
| <i>Pycnanthemum virginianum</i> | Virginia mountain-mint | L3 | Native | Forbs | 0 | 0.1 | 0.2 | |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 0 | 0.1 | 0.1 | |
| <i>Stellaria longifolia</i> | long-leaved chickweed | L4 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 13.4 | 11.8 | 7.2 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 1.5 | 6 | 8.8 | |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 7.4 | 0 | 0 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 2.7 | 3.1 | 0.4 | |
| <i>Glechoma hederacea</i> | creeping Charlie | L+ | Non-native | Forbs | 1 | 1.4 | 2.6 | |
| <i>Polygonum achoreum</i> | striate knotweed | L+ | Non-native | Forbs | 0 | 4.4 | 0 | |
| <i>Lactuca scariola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 4.1 | 0 | |
| <i>Atriplex patula</i> | halberd-leaved orache | L+? | Non-native | Forbs | 0 | 3.4 | 0 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.2 | 2.2 | 0.7 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 2.8 | 0.2 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0 | 1.6 | 1.4 | |
| <i>Sanchus arvensis</i> ssp. <i>arvensis</i> | glandular perennial sow-thistle | L+ | Non-native | Forbs | 0 | 0.4 | 1.9 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0 | 1 | 0.1 | |
| <i>Veronica serpyllifolia</i> ssp. <i>serpyllifolia</i> | thyme-leaved speedwell | L+ | Non-native | Forbs | 0 | 0.6 | 0.4 | |
| <i>Persicaria maculosa</i> | lady's thumb | L+ | Non-native | Forbs | 0 | 0.8 | 0 | |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 0.2 | 0.6 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.5 | 0.2 | 0.1 | |
| <i>Melilotus albus</i> | white sweet clover | L+ | Non-native | Forbs | 0.1 | 0.4 | 0.2 | |
| <i>Amaranthus retroflexus</i> | red-root pigweed | L+ | Non-native | Forbs | 0 | 0.5 | 0 | |
| <i>Ranunculus acris</i> | tall buttercup | L+ | Non-native | Forbs | 0.5 | 0 | 0 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0 | 0 | 0.4 | |
| <i>Stellaria graminea</i> | grass-leaved chickweed | L+ | Non-native | Forbs | 0.1 | 0 | 0.2 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0.3 | 0 | 0 | |
| <i>Artemisia biennis</i> | biennial wormwood | L+ | Non-native | Forbs | 0 | 0.2 | 0 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0.2 | 0 | |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0 | 0 | 0.1 | |
| <i>Malva neglecta</i> | common mallow | L+ | Non-native | Forbs | 0 | 0.1 | 0 | |
| <i>Portulaca oleracea</i> | purslane | L+ | Non-native | Forbs | 0 | 0.1 | 0 | |
| <i>Sanchus asper</i> | spiny sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 0.1 | |
| <i>Symphyotrichum ciliatum</i> | rayless aster | L+* | Non-Native | Forbs | 0 | 0.1 | 0 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0.2 | 2.4 | 7.8 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.3 | 0.2 | 0.2 | |
| <i>Acer negundo</i> | Manitoba maple | L+?* | Native | Woody | 0 | 0 | 0.1 | |
| <i>Acer saccharinum</i> | silver maple | L4 | Native | Woody | 0 | 0 | 0.1 | |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0 | 0.1 | 0 | |
| Thatch | Thatch | | | | 33.2 | 0 | 7.2 | |
| Bare soil | Bare soil | | | | 0.4 | 33 | 0.8 | |

*Only spring survey completed

Section 4

Twelve vegetation plots have been monitored in section 4 since 2016. The plots in this section underwent initial restoration between 2013 and 2016 providing one of the longest records of data collection post-restoration within The Meadoway. We provide a general summary of findings for each sub-section (4.1, 4.2, 4.3, 4.4) with detailed information on percent cover by species provided in individual tables.

Section 4.1

Plots 4.1G, H, and I demonstrated several similar patterns in percent cover and community composition (Table 12, 13, 14). Tall goldenrod and wild bergamot increased in cover over time in plots G, H, and I, while ox-eye increased in plots G and H only. The cover of native grasses was highest post-restoration in 2018-2022; however, has decreased to lower covers by 2025. Plots G and H have some microenvironmental variations due to differences in slope, resulting in unique species composition including more native asters and strawberry on the sloped areas. Kentucky bluegrass increased in cover across all plots, with the largest increases in plot I, where it reached 52% cover in 2025. Non-native forb cover was generally quite low and decreased over time compared to native forbs, particularly in 2024. Creeping thistle cover was consistently low, showed no clear temporal trend, and was virtually absent in plot I. DSV cover continues to increase. Thatch cover was high across all plots, ranging from 37-80% in 2025.

Table 12. Plot 4.1G percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020* | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|-----------------------------|--------|----------------------|-------------------|-------|------|------|-------|------|------|------|------|------|-----------------------|
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 1.6 | 3.6 | 2.7 | 2.7 | 0.3 | 0.1 | 0.2 | 0 | 0 | 80-100 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0.4 | 0.5 | 1.9 | 1.6 | 0.8 | 0.5 | 1.2 | 0.3 | 0.5 | 60-80 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0 | 0.1 | 0.5 | 0.5 | 0 | 0.2 | 0.2 | 0.3 | 40-60 |
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 20-40 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0 | 0.2 | 0.6 | 1.2 | 2.9 | 2.6 | 8.5 | 4.4 | 14.4 | 10-20 |
| <i>Setaria pumila</i> ssp. <i>pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 4 | 0.2 | 0.3 | 1 | 0.4 | 0.2 | 0 | 0.1 | 5-10 |
| <i>Setaria viridis</i> | green foxtail | L+ | Non-native | Graminoids | 2.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2-5 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0 | 0.1 | 0.4 | 0.2 | 0.2 | 0.1 | 0.3 | 0 | 0.1 | 1-2 |
| <i>Digitaria ischaemum</i> | smooth crab grass | L+ | Non-native | Graminoids | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1-1 |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 |
| *Only summer survey completed | | | | | | | | | | | | | | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 1.6 | 4.2 | 7.5 | 13.4 | 27.2 | 23 | 51 | 61 | |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0.4 | 4.4 | 8.4 | 8.1 | 12.3 | 15.1 | 9.3 | 17.2 | 8.1 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 36.6 | 9.6 | 27.4 | 1.8 | 0.9 | 2.1 | 1.3 | 0.7 | 1 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 2.6 | 1.3 | 2.2 | 7.1 | 9.3 | 9.8 | 17.6 | 14.4 | 8.6 | |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 1.2 | 10.6 | 13 | 17.2 | 8.6 | 7.1 | 4.2 | 2.6 | 0.8 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0.8 | 2.8 | 3 | 0.1 | 0.6 | 0.9 | 0.5 | 1.2 | 0.2 | |
| <i>Erigeron philadelphicus</i> var. <i>philadelphicus</i> | Philadelphia fleabane | L5 | Native | Forbs | 0 | 0 | 0.2 | 0 | 0.5 | 1.9 | 1.5 | 1.2 | 1 | |
| <i>Geum canadense</i> | white avens | L5 | Native | Forbs | 0 | 0.1 | 0.2 | 0.8 | 0.8 | 1 | 0.6 | 0.2 | 0 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0.1 | 0.5 | 0.4 | 0.6 | 0.9 | 0.2 | 0.3 | 0.4 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.1 | 0.1 | 0 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0.1 | 0 | 0.8 | 0.1 | 0 | 0.8 | 0.1 | 0 | 0.1 | |
| <i>Solidago canadensis</i> var. <i>canadensis</i> | Canada goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0.2 | 0.7 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 1.1 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Prunella vulgaris</i> ssp. <i>lanceolata</i> | heal-all (native) | L5 | Native | Forbs | 0.4 | 0 | 0.1 | 0 | 0 | 0 | 0.1 | 0.1 | 0.1 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0.5 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Clinopodium vulgare</i> | wild basil | L5 | Native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Galium asprellum</i> | rough bedstraw | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Galium aparine</i> | cleavers | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Hackelia virginiana</i> | Virginia stickseed | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Senna hebecarpa</i> | wild senna | L+* | Native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Symphotrichum lateriflorum</i> var. <i>lateriflorum</i> | calico aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Viola sororia</i> var. <i>sororia</i> | common blue violet | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 20.4 | 2.8 | 5 | 0.7 | 11.4 | 4.2 | 5.2 | 3.1 | 3 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 1.7 | 21.1 | 11.7 | 7.5 | 5 | 1.3 | 0.9 | 0.5 | 0.5 | |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 7.2 | 11.6 | 7.3 | 1.4 | 1.5 | 1.7 | 2.7 | 1.6 | 0.8 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.1 | 2.2 | 3.1 | 0.3 | 0.5 | 0.8 | 0.2 | 0.4 | 0.4 | |
| <i>Veronica serpyllifolia</i> ssp. <i>serpyllifolia</i> | thyme-leaved speedwell | L+ | Non-native | Forbs | 0 | 0.3 | 0.4 | 1 | 1 | 1.6 | 0.6 | 0.4 | 0.6 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 0.5 | 1.8 | 2.1 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0 | |
| <i>Veronica arvensis</i> | corn speedwell | L+ | Non-native | Forbs | 0 | 0.7 | 2.1 | 0 | 0.7 | 0.3 | 0.5 | 0.4 | 0.5 | |
| <i>Potentilla argentea</i> | silvery cinquefoil | L+ | Non-native | Forbs | 2.6 | 0.6 | 1 | 0 | 0.1 | 0 | 0.1 | 0 | 0 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0 | 0.3 | 2.1 | 0.2 | 0.6 | 0.2 | 0.1 | 0 | 0 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0.2 | 1.2 | 0.4 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | |
| <i>Veronica officinalis</i> | common speedwell | L+ | Non-native | Forbs | 0.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Geum urbanum</i> | urban avens | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0.1 | 0 | 0.1 | 0 | 0 | 0.2 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0 | 0.2 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Potentilla recta</i> | sulphur cinquefoil | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0.1 | 0.1 | 0.1 | 0.1 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Alliaria petiolata</i> | garlic mustard | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0.1 | 0.1 | |
| <i>Erysimum hieraciifolium</i> | hawkweed-leaved mustard | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.3 | 0 | 0 | 0 | 0 | |
| <i>Coreopsis grandiflora</i> | large-flowered tickseed | L+ | Non-native | Forbs | 0 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Leucanthemum vulgare</i> | ox-eye daisy | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Rumex acetosella</i> | sheep sorrel | L+ | Non-Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.1 | 1 | 1.3 | 1.1 | 1.4 | 3 | 3.4 | 3 | 3.6 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 1.2 | 1.9 | 3 | 2.2 | 1.6 | 2 | 1.1 | 0.4 | 0.5 | |
| <i>Parthenocissus vitacea</i> | thicket creeper | L5 | Native | Woody | 0 | 0 | 0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0 | |
| <i>Acer saccharum</i> ssp. <i>nigrum</i> | black maple | L4 | Native | Woody | 0 | 0 | 0 | 0.1 | 0 | 0.1 | 0.1 | 0.1 | 0.1 | |
| <i>Rhus typhina</i> | staghorn sumach | L5 | Native | Woody | 0 | 0.2 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0.1 | |
| <i>Acer negundo</i> | Manitoba maple | L+?* | Native | Woody | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | |
| <i>Ulmus americana</i> | white elm | L5 | Native | Woody | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Vitis riparia</i> | riverbank grape | L5 | Native | Woody | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Parthenocissus inserta</i> | thicket creeper | L5 | Native | Woody | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Acer tataricum</i> ssp. <i>ginnala</i> | Amur maple | L+ | Non-native | Woody | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0 | 0.1 | |
| <i>Robinia pseudoacacia</i> | black locust | L+ | Non-native | Woody | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Euonymus europaeus</i> | European spindle-tree | L+ | Non-native | Woody | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0.1 | |
| <i>Malus pumila</i> | apple | L+ | Non-native | Woody | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| Thatch | Thatch | | | | 0 | 0 | 0.5 | 0 | 22 | 52 | 57 | 64 | 54 | |
| Bare soil | Bare soil | | | | 9 | 1.4 | 0.6 | 1 | 1 | 2.6 | 1 | 0 | 0 | |

Table 13. Plot 4.1H percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020* | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|-----------------------------|--------|----------------------|-------------------|-------|------|------|-------|------|------|------|------|------|-----------------------|
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 0.6 | 0.6 | 0.8 | 0.9 | 0.4 | 1.4 | 1.4 | 2.3 | 80-100 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 1.8 | 0.7 | 0.7 | 0.8 | 0.6 | 0.9 | 0.8 | 1.9 | 60-80 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0.5 | 2.4 | 1.8 | 2.2 | 0.7 | 0.1 | 0.2 | 0.1 | 0 | 40-60 |
| <i>Poa pratensis ssp. pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0 | 0.1 | 0.3 | 0.7 | 1.3 | 1.9 | 6.8 | 4.7 | 14 | 20-40 |
| <i>Setaria pumila ssp. pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 17.2 | 0.2 | 0.2 | 0.5 | 0 | 0 | 0 | 0 | 10-20 |
| <i>Setaria viridis</i> | green foxtail | L+ | Non-native | Graminoids | 5.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5-10 |
| <i>Festuca rubra ssp. rubra</i> | red fescue | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 3 | 0 | 2-5 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0.1 | 0 | 0.2 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 1-2 |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.1 | 0.1 | 0 | 0.1-1 |
| <i>Digitaria ischaemum</i> | smooth crab grass | L+ | Non-native | Graminoids | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Agrostis gigantea</i> | redtop | L+ | Non-native | Graminoids | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *Only summer survey completed | | | | | | | | | | | | | | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 1.2 | 7.4 | 3.4 | 12.5 | 16.4 | 19 | 31.4 | 32.6 | 20.4 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 0.4 | 2 | 9.8 | 11 | 20.2 | 23.1 | 35.4 | 37 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 12.8 | 27.1 | 44.3 | 7.8 | 1.7 | 1.9 | 2.3 | 1.5 | 0.7 | |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 3.3 | 14 | 17 | 13.4 | 5.4 | 2.1 | 1.4 | 1.1 | 0.8 | |
| <i>Helopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0.5 | 1.4 | 1.5 | 2.4 | 4.6 | 6.8 | 5.9 | 7.4 | 3.1 | |
| <i>Solidago canadensis var. canadensis</i> | Canada goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 2.8 | 6 | 0 | 0 | 0 | 0 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 2.7 | 2.5 | 0.6 | 0.9 | 1.7 | 0.3 | 0.4 | 0.1 | |
| <i>Senna hebecarpa</i> | wild senna | L+* | Native | Forbs | 0 | 0.1 | 0.8 | 1.2 | 0.9 | 1.4 | 1.2 | 0.8 | 0.6 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.3 | 0.1 | 0.4 | 0.4 | 0.8 | 0.4 | 0.5 | 0.3 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0.5 | 1.7 | 0.2 | 0.1 | 0 | 0 | 0 | 0.1 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0.1 | 1.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 0.1 | 1.1 | 0 | 0.5 | 0.2 | 0.1 | 0 | 0 | |
| <i>Fragaria virginiana ssp. virginiana</i> | common wild strawberry | L5 | Native | Forbs | 0 | 0.1 | 0.2 | 0.2 | 0.4 | 0.4 | 0.2 | 0.2 | 0.2 | |
| <i>Erigeron philadelphicus var. philadelphicus</i> | Philadelphia fleabane | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0.2 | 0.2 | 0.2 | 0.4 | 0.2 | |
| <i>Prunella vulgaris ssp. lanceolata</i> | heal-all (native) | L5 | Native | Forbs | 0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.4 | 0.1 | 0.1 | 0 | |
| <i>Geum canadense</i> | white avens | L5 | Native | Forbs | 0 | 0.1 | 0.2 | 0.4 | 0 | 0 | 0 | 0 | 0 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Coreopsis lanceolata</i> | lance-leaved coreopsis | L+* | Native | Forbs | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0.1 | 0.1 | |
| <i>Symphyotrichum cordifolium</i> | heart-leaved aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0.1 | 0 | |
| <i>Epilobium ciliatum ssp. ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Fragaria vesca ssp. americana</i> | woodland strawberry | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Hackelia virginiana</i> | Virginia stickseed | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Potentilla norvegica</i> | rough cinquefoil | L+? | Native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Pycnanthemum virginianum</i> | Virginia mountain-mint | L3 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Silphium perfoliatum</i> | cup-plant | L+? | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | |
| <i>Solidago gigantea</i> | smooth goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 59.4 | 6 | 2.2 | 0.5 | 2.5 | 2.5 | 2.2 | 1.9 | 1.6 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 4.3 | 6.9 | 15.6 | 9 | 10.5 | 1.5 | 0.8 | 0.5 | 0.4 | |
| <i>Leucanthemum vulgare</i> | ox-eye daisy | L+ | Non-native | Forbs | 0 | 3 | 1.4 | 2.5 | 3 | 5.1 | 3.4 | 1.4 | 1.6 | |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 5 | 5.8 | 0.9 | 0.5 | 2 | 2.3 | 1.9 | 1.7 | 0.8 | |
| <i>Veronica serpyllifolia ssp. serpyllifolia</i> | thyme-leaved speedwell | L+ | Non-native | Forbs | 0 | 0.2 | 0.1 | 0.9 | 1.6 | 2.3 | 1.4 | 0.5 | 0.5 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0 | 2.6 | 2.4 | 0.1 | 0.5 | 0.4 | 0.2 | 0.1 | 0.3 | |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0 | 0.1 | 0.1 | 0.6 | 1.8 | 0.9 | 1 | 1 | 0.8 | |
| <i>Medicago lupulina</i> | black medic | L+ | Non-native | Forbs | 0 | 1.7 | 1 | 0.1 | 0.3 | 0.5 | 0.2 | 0.2 | 0.1 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0.2 | 1 | 0.6 | 0 | 0.3 | 0.5 | 0.5 | 0.2 | 0.2 | |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 0.2 | 1.2 | 0 | 0 | 0.1 | 0.3 | 1 | 0.2 | |
| <i>Geum urbanum</i> | urban avens | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0.3 | 0.3 | 1.6 | 0.3 | 0.1 | 0 | |
| <i>Potentilla argentea</i> | silvery cinquefoil | L+ | Non-native | Forbs | 1.1 | 0.4 | 0.4 | 0.2 | 0.2 | 0.1 | 0 | 0 | 0 | |
| <i>Veronica arvensis</i> | corn speedwell | L+ | Non-native | Forbs | 0 | 0.3 | 0.8 | 0 | 0.2 | 0.3 | 0.1 | 0.3 | 0.1 | |
| <i>Convolvulus arvensis</i> | field bindweed | L+ | Non-native | Forbs | 0 | 0.2 | 0.6 | 0 | 0.4 | 0.2 | 0 | 0 | 0.1 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 0.3 | 0.2 | 0.5 | 0.3 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | |
| <i>Alliaria petiolata</i> | garlic mustard | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0.1 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | |
| <i>Euphorbia maculata</i> | spotted spurge | L+? | Non-native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Stellaria graminea</i> | grass-leaved chickweed | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Coreopsis grandiflora</i> | large-flowered tickseed | L+ | Non-native | Forbs | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Potentilla recta</i> | sulphur cinquefoil | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Veronica officinalis</i> | common speedwell | L+ | Non-native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.5 | 1 | 0.6 | 1 | 1.4 | 2.4 | 1.3 | 1.9 | 3.3 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0 | 1 | 0 | 0 | 0 | 0 | 0.2 | 0.2 | 0.1 | |
| <i>Acer negundo</i> | Manitoba maple | L+? | Native | Woody | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0.1 | 0 | |
| <i>Rhus typhina</i> | staghorn sumach | L5 | Native | Woody | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Thuja occidentalis</i> | white cedar | L5 | Native | Woody | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Vitis riparia</i> | riverbank grape | L5 | Native | Woody | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0.2 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Acer tataricum ssp. ginnala</i> | Amur maple | L+ | Non-native | Woody | 0 | 0 | 0.1 | 0 | 0 | 0 | 0.1 | 0 | 0.1 | |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0.1 | |
| <i>Euonymus europaeus</i> | European spindle-tree | L+ | Non-native | Woody | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| Thatch | Thatch | | | | 0 | 0.8 | 4.1 | 0 | 30.4 | 31 | 47 | 53 | 37 | |
| Bare soil | Bare soil | | | | 11.4 | 0.8 | 0.8 | 0 | 1.8 | 1.6 | 1.2 | 0 | 0 | |

Table 14. Plot 4.1I percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|-----------------------------|--------|----------------------|-------------------|-------|------|------|------|------|------|------|------|-----------------------|
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0.8 | 12 | 6.1 | 4.4 | 1.8 | 2.4 | 1.7 | 1 | 80-100 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 1 | 4.5 | 4.2 | 3.6 | 3.8 | 1.4 | 1.8 | 2.1 | 60-80 |
| <i>Schizachyrium scoparium</i> | little bluestem | L2 | Native | Graminoids | 0.2 | 1.4 | 0.7 | 0.4 | 0.4 | 0.4 | 0.1 | 0.1 | 40-60 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0.1 | 0.3 | 0.9 | 0.2 | 0 | 0 | 0.2 | 0 | 20-40 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10-20 |
| <i>Poa pratensis ssp. pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0 | 0.8 | 2.1 | 7.9 | 7.1 | 14.8 | 18.8 | 52 | 5-10 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0.1 | 0 | 0.4 | 0.4 | 0.5 | 0.2 | 0.1 | 0.1 | 2-5 |
| <i>Festuca rubra ssp. rubra</i> | red fescue | L+ | Non-native | Graminoids | 0 | 0.8 | 0.4 | 0 | 0.2 | 0 | 0.1 | 0 | 1-2 |
| <i>Bromus japonicus</i> | Japanese chess | L+ | Non-native | Graminoids | 0 | 0.2 | 0 | 0.4 | 0.4 | 0.1 | 0 | 0 | 0.1-1 |
| <i>Agrostis gigantea</i> | redtop | L+ | Non-native | Graminoids | 0 | 0.4 | 0.4 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0 | 0 | 0 | 0 |
| <i>Setaria viridis</i> | green foxtail | L+ | Non-native | Graminoids | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Setaria pumila ssp. pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Bromus commutatus</i> | upright chess | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0.6 | 8.6 | 30.2 | 31.2 | 31 | 36.8 | 48 | 29.8 | 80-100 |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0.1 | 1.3 | 1.5 | 4 | 8.6 | 8.8 | 8 | 2.9 | 60-80 |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 3.4 | 5.3 | 7.8 | 3.4 | 2.8 | 2.7 | 1.2 | 0.9 | 40-60 |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 0.8 | 2.1 | 2.4 | 0.4 | 0.2 | 0.2 | 0.2 | 0.1 | 20-40 |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0.8 | 4 | 0.3 | 0.3 | 0.3 | 0.1 | 0 | 0.1 | 10-20 |
| <i>Helianthus scaberrimus</i> | ox-eye | L2 | Native | Forbs | 0.1 | 1.2 | 0.6 | 0.7 | 0.4 | 0.1 | 0 | 0 | 5-10 |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 1.1 | 0.5 | 0.4 | 0.3 | 0.3 | 0.1 | 0.2 | 2-5 |
| <i>Prunella vulgaris ssp. lanceolata</i> | heal-all (native) | L5 | Native | Forbs | 0 | 2.4 | 0.2 | 0 | 0.1 | 0 | 0 | 0.1 | 1-2 |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.8 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0.1-1 |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0.5 | 0 | 0 | 0.5 | 0.1 | 0 | 0 | 0 |
| <i>Erigeron philadelphicus var. philadelphicus</i> | Philadelphia fleabane | L5 | Native | Forbs | 0 | 0.1 | 0.2 | 0 | 0.2 | 0 | 0 | 0.1 | 0 |
| <i>Senna hebecarpa</i> | wild senna | L* | Native | Forbs | 0 | 0 | 0.1 | 0.2 | 0.1 | 0 | 0.1 | 0.1 | 0 |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Galium aparine</i> | cleavers | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Symphyotrichum lanceolatum var. lanceolatum</i> | panicked aster | L5 | Native | Forbs | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Coreopsis lanceolata</i> | lance-leaved coreopsis | L* | Native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Euthamia graminifolia</i> | grass-leaved goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Solidago gigantea</i> | smooth goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 51.8 | 10.5 | 4.3 | 2.1 | 2.2 | 0.7 | 1.5 | 0.4 | 80-100 |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0.7 | 11.8 | 10.2 | 4.6 | 1.1 | 0.6 | 0.6 | 0.3 | 60-80 |
| <i>Dipsacus fullonum</i> | teasel | L+ | Non-native | Forbs | 0 | 0 | 0.4 | 1.8 | 8 | 8 | 4 | 1.4 | 40-60 |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 0.6 | 8 | 2.2 | 0.6 | 0.6 | 0.8 | 0.3 | 0.1 | 20-40 |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 1.8 | 5.3 | 1.4 | 0.2 | 0.6 | 0.1 | 0.1 | 0 | 10-20 |
| <i>Leucanthemum vulgare</i> | ox-eye daisy | L+ | Non-native | Forbs | 0.4 | 2.2 | 3.2 | 0.2 | 0.6 | 0 | 0.1 | 0 | 5-10 |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 5.2 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 2-5 |
| <i>Veronica arvensis</i> | corn speedwell | L+ | Non-native | Forbs | 0 | 0.4 | 0.5 | 0.4 | 2.2 | 0.7 | 0.4 | 0.2 | 1-2 |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0 | 2.2 | 1.4 | 0.2 | 0.2 | 0.2 | 0 | 0 | 0.1-1 |
| <i>Potentilla argentea</i> | silvery cinquefoil | L+ | Non-native | Forbs | 1.1 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0 | 0.2 | 0.5 | 0.2 | 0.1 | 0.1 | 0.1 | 0 | 0 |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0.4 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.2 | 0 |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0 |
| <i>Arenaria serpyllifolia</i> | thyme-leaved sandwort | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Geum urbanum</i> | urban avens | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Prunella vulgaris</i> | heal-all | L? | Non-native | Forbs | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Stellaria graminea</i> | grass-leaved chickweed | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Coreopsis grandiflora</i> | large-flowered tickseed | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Echium vulgare</i> | viper's bugloss | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Euphorbia maculata</i> | spotted spurge | L? | Non-native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Polygonum aviculare</i> | prostrate knotweed | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Cynanchum rasicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.7 | 2.2 | 1.9 | 1.2 | 2.4 | 2.7 | 3.3 | 5.5 | 80-100 |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0 | 0 | 0.2 | 0 | 0 | 0.1 | 0 | 0.1 | 60-80 |
| <i>Acer negundo</i> | Manitoba maple | L+? | Native | Woody | 0 | 0.2 | 0.1 | 0 | 0.3 | 0 | 0.2 | 0 | 20-40 |
| <i>Juglans nigra</i> | black walnut | L5 | Native | Woody | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 10-20 |
| <i>Rhus typhina</i> | staghorn sumach | L5 | Native | Woody | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 5-10 |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0 | 0.1 | 0.3 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 2-5 |
| <i>Acer tataricum ssp. ginnala</i> | Amur maple | L+ | Non-native | Woody | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0.1-1 |
| Thatch | Thatch | | | | 0 | 0 | 4.7 | 18 | 40 | 70.8 | 74.6 | 80.9 | 80-100 |
| Bare soil | Bare soil | | | | 8.4 | 2 | 6.8 | 4.8 | 2.2 | 2.6 | 0.4 | 0 | 0 |

*Only summer survey completed

Section 4.2

Plots 4.2A, B, and C demonstrated several similar patterns in percent cover and community composition (Table 15, 16, 17). Percent cover of tall goldenrod increased over time in all plots reaching a high of 62.6% in 2025 in plot A. The cover of native grasses were generally low across all plots. In contrast, Kentucky bluegrass increased in cover over time especially in plot A reaching 74.6% in 2024 and 60% in 2025. Non-native forb cover generally decreased over time although bird's foot trefoil (*Lotus corniculatus*) increased in plots A and B. Creeping thistle cover decreased over time and DSV cover increased over time. The cover of thatch was very high in plots reaching almost 100% in 2024 or 2025.

Section 4.3

Plots 4.3D, E, and F showed similar patterns in percent cover and community composition (Table 18-20). native grass cover was initially very high, peaking in the early years before declining in plots D and E, while remaining consistently low in plot F. Kentucky bluegrass cover generally increased over time but showed slight declines in 2024 and 2025 in plots D and E; in contrast, cover continued to increase in plot F. Percent cover of tall goldenrod generally increased over time to a high of 62.8% in plot F in 2025. Non-native forb cover decreased over time with the greatest decreases for dandelion (*Taraxacum officinale*). By 2025, creeping thistle and DSV cover were low across all plots, ranging from 0.3-1.6%. Thatch cover was very high in plots reaching over 80% in all plots in 2025.

Section 4.4

Plots 4.4J, K, and L also demonstrated several similar patterns in percent cover and community composition (Table 21, 22, 23). Percent cover of tall goldenrod increased over time in this section. Native grass cover was low similar to section 4.2 (<6%). There was moderate to high cover of non-native grasses including quack grass (*Elymus repens*), Kentucky bluegrass, and smooth brome grass (*Bromus inermis*). Non-native forb cover generally decreased over time. The cover of common milkweed, a native forb, was considerably higher in this section compared to other sections (e.g. 13.2% in plot J and 4.8% in plot L in 2025). Creeping thistle cover increased between 2023 and 2024 particularly in plots K and L, while DSV cover was very low to none in recent years. Creeping thistle and DSV cover has been generally low over the years, but may be increasing in plots K and L.

Table 15. Plot 4.2A percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|---|-----------------------------|--------|----------------------|-------------------|-------|------|------|------|------|------|------|------|------|-----------------------|
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 1 | 1 | 0.4 | 0.6 | 0.2 | 0.1 | 0 | 0 | 0 | 80-100 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 60-80 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0.2 | 0.8 | 0.2 | 0.2 | 0.2 | 0.1 | 0 | 0 | 0 | 40-60 |
| <i>Schizachyrium scoparium</i> | little bluestem | L2 | Native | Graminoids | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20-40 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10-20 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 2.4 | 18.2 | 19.8 | 33.2 | 27.6 | 16.8 | 50 | 74.6 | 60 | 5-10 |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 14.4 | 5 | 0.8 | 0.4 | 4 | 1.2 | 0 | 0 | 0 | 2-5 |
| <i>Schedanorus pratensis</i> | meadow fescue | L+ | Non-native | Graminoids | 10.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1-2 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0 | 0.4 | 0.7 | 0.7 | 1 | 1 | 2.2 | 2.2 | 0.4 | 0.1-1 |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0.1 | 0.6 | 0 | 1 | 0 | 0 |
| <i>Setaria pumila</i> ssp. <i>pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 0.9 | 0.5 | 0.2 | 0.2 | 0 | 0 | 0 | 0 | 0 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 0 | 1.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 0.8 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0.2 | 0.4 | 0.2 | 0 | 0.1 | 0 |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 4.2 | 20.6 | 2.4 | 13.2 | 10.2 | 13 | 14.4 | 19.6 | 19.6 | 80-100 |
| <i>Solidago canadensis</i> var. <i>canadensis</i> | Canada goldenrod | L5 | Native | Forbs | 0.6 | 0 | 18.2 | 13.2 | 7.6 | 0 | 0 | 0 | 0 | 60-80 |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 1.1 | 1.2 | 1.8 | 3.2 | 3.2 | 6.4 | 5.8 | 7 | 3 | 40-60 |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0.1 | 0.1 | 1 | 1.5 | 4.3 | 5.8 | 8 | 5.2 | 2.8 | 20-40 |
| <i>Ratibida pinnata</i> | grey-headed coneflower | L+* | Native | Forbs | 0.8 | 1.6 | 3.1 | 1.2 | 2.1 | 3.1 | 2.1 | 1 | 1.2 | 10-20 |
| <i>Silphium perfoliatum</i> | cup-plant | L+?* | Native | Forbs | 0 | 0.3 | 1.2 | 3 | 2.6 | 3.6 | 0.5 | 0.6 | 0.1 | 5-10 |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 0.5 | 0.8 | 3.8 | 2.5 | 1 | 1.4 | 0.2 | 0.1 | 0.1 | 2-5 |
| <i>Pycnanthemum virginianum</i> | Virginia mountain-mint | L3 | Native | Forbs | 0.4 | 0.2 | 0.4 | 0.4 | 1.2 | 0.4 | 0.6 | 1 | 1.2 | 1-2 |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.6 | 0.2 | 1 | 1.6 | 0.4 | 0.6 | 0.9 | 0.2 | 0.2 |
| <i>Asclepias tuberosa</i> | butterfly milkweed | LX | Native | Forbs | 0.6 | 0.2 | 1.3 | 0.6 | 0.2 | 0.8 | 0.1 | 0.4 | 0.2 | 0.2 |
| <i>Solidago rigida</i> ssp. <i>rigida</i> | stiff goldenrod | LX | Native | Forbs | 0 | 0 | 0 | 0 | 0.4 | 1.1 | 0.8 | 1.6 | 0.2 | 0.2 |
| <i>Coreopsis tripteris</i> | tall tickseed | L+* | Native | Forbs | 0 | 0.1 | 0.4 | 0.4 | 0.6 | 0.7 | 0.2 | 0.3 | 0.3 | 0.2 |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0.1 | 0 | 0.6 | 0.4 | 0.8 | 0.3 | 0 | 0 | 0 | 0 |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.5 | 0.5 | 0.2 | 0.4 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Asclepias incarnata</i> ssp. <i>incarnata</i> | swamp milkweed | L4 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.2 | 0 | 0 | 0 |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.1 | 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 |
| <i>Asclepias sullivantii</i> | smooth milkweed | LX | Native | Forbs | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Potentilla norvegica</i> | rough cinquefoil | L+?* | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Symphitrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 |
| <i>Lotus corniculatus</i> | bird's foot trefoil | L+ | Non-native | Forbs | 0.2 | 0.1 | 1.8 | 7 | 14.1 | 10 | 14 | 9.2 | 5.6 | 0.2 |
| <i>Echium vulgare</i> | viper's bugloss | L+ | Non-native | Forbs | 0 | 12 | 13 | 2.6 | 10 | 2 | 0 | 0 | 0 | 0 |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 14.4 | 5.6 | 8.4 | 5.2 | 1.5 | 1.6 | 0.3 | 0.6 | 0.3 | 0.3 |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 11.7 | 1.9 | 0.8 | 0.6 | 0.4 | 0.3 | 0.4 | 0.2 | 0.2 | 0.2 |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 14.4 | 0.1 | 0.8 | 0.3 | 0.2 | 0.1 | 0.1 | 0 | 0.1 | 0.1 |
| <i>Medicago sativa</i> ssp. <i>sativa</i> | alfalfa | L+ | Non-native | Forbs | 3.6 | 0.8 | 0.6 | 1.4 | 2.6 | 2 | 1 | 0.2 | 0.1 | 0.1 |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 2.8 | 5.1 | 1.2 | 0.7 | 0.3 | 0.2 | 0 | 0.1 | 0.1 |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 1.5 | 1.6 | 1.9 | 1.3 | 0.9 | 0.5 | 0 | 0 | 0 | 0 |
| <i>Potentilla recta</i> | sulphur cinquefoil | L+ | Non-native | Forbs | 0 | 0.4 | 0 | 0.2 | 0.4 | 0.4 | 2 | 0.4 | 0.2 | 0.2 |
| <i>Convolvulus arvensis</i> | field bindweed | L+ | Non-native | Forbs | 0.1 | 0.4 | 1.5 | 0.6 | 0.2 | 0.1 | 0.4 | 0.1 | 0.2 | 0.2 |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.6 | 0.3 | 1 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0.6 | 0 | 0.5 | 0.6 | 0.5 | 0.2 | 0 | 0 | 0.1 | 0.1 |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0.4 | 0.4 | 0.5 | 0.4 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.1 | 0 | 0.5 | 0.1 | 0.3 | 0.4 | 0.1 | 0 | 0 | 0 |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 0.4 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0 | 0 | 0 | 0 |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 0.8 | 0.1 | 0.2 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Coreopsis grandiflora</i> | large-flowered tickseed | L+ | Non-native | Forbs | 0 | 0.2 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Lepidium campestre</i> | field pepper-grass | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 |
| <i>Vicia tetrasperma</i> | slender vetch | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 |
| <i>Fallopia convolvulus</i> | black bindweed | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Trifolium hybridum</i> | alsike clover | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 1.7 | 2.9 | 5.9 | 9.6 | 5.6 | 13.6 | 13.6 | 16.4 | 14 | 14 |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 2.8 | 11.4 | 6.4 | 8.6 | 1.4 | 1.6 | 0.6 | 0.3 | 0.3 | 0.3 |
| <i>Cornus stolonifera</i> | red osier dogwood | L5 | Native | Woody | 0 | 0 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Thatch | Thatch | | | | 2 | 34 | 16.6 | 46.6 | 39.4 | 63 | 95 | 94.4 | 96.6 | 96.6 |
| Bare soil | Bare soil | | | | 0.6 | 0 | 0 | 1.6 | 0 | 0 | 0.2 | 0 | 0 | 0 |

*Only summer survey completed

Table 16. Plot 4.2B percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|-----------------------------|--------|----------------------|-------------------|-------|------|------|------|------|------|------|------|------|-------------------------------|
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 80-100 |
| <i>Poa pratensis ssp. pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 8.4 | 11.4 | 5 | 10.7 | 10.4 | 9.8 | 24.6 | 22 | 18.2 | 60-80 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 3.8 | 11.7 | 11.4 | 10.8 | 5.6 | 6.3 | 4.6 | 2.8 | 0.2 | 40-60 |
| <i>Setaria pumila ssp. pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 31.6 | 0.2 | 0.3 | 1.3 | 0 | 0 | 0 | 0 | 20-40 |
| <i>Poa pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6.6 | 10-20 |
| <i>Festuca rubra ssp. rubra</i> | red fescue | L+ | Non-native | Graminoids | 0 | 0.8 | 0 | 0.2 | 0.6 | 0.4 | 0.1 | 0 | 0 | 5-10 |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 2-5 |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 1-2 |
| <i>Setaria viridis</i> | green foxtail | L+ | Non-native | Graminoids | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1-1 |
| | | | | | | | | | | | | | | 0 |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 23 | 25.3 | 23.4 | 31.4 | 16.4 | 28.2 | 36 | 65.8 | 62.6 | *Only summer survey completed |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 2.6 | 1.9 | 3.5 | 5.6 | 14.2 | 15.2 | 21.9 | 9.4 | 4.4 | |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 0 | 0.5 | 2.6 | 4.4 | 4.3 | 6.2 | 1.6 | 1.5 | 0.8 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.6 | 1.4 | 3 | 2.2 | 2.1 | 1.8 | 1.6 | 1.4 | |
| <i>Silphium perfoliatum</i> | cup-plant | L+? | Native | Forbs | 0 | 0.1 | 0.2 | 1.1 | 1.4 | 3 | 2.7 | 1.6 | 1.2 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0.8 | 0.4 | 1.2 | 1.2 | 2.7 | 0.4 | 0.8 | 1.2 | |
| <i>Symphyotrichum lanceolatum var. lanceolatum</i> | panicked aster | L5 | Native | Forbs | 0 | 0 | 1 | 1.1 | 2.8 | 3.1 | 0.3 | 0.4 | 0 | |
| <i>Solidago canadensis var. canadensis</i> | Canada goldenrod | L5 | Native | Forbs | 0 | 0 | 5.4 | 0 | 0 | 0 | 0 | 0.2 | 0.2 | |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0.3 | 0.4 | 2.1 | 0.3 | 1.1 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0.1 | 0.1 | 0 | 0.7 | 2.4 | 0.1 | 0 | 0 | |
| <i>Coreopsis tripteris</i> | tall tickseed | L+* | Native | Forbs | 0 | 0.2 | 0.2 | 0.4 | 0.4 | 1 | 0.2 | 0 | 0 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 1.2 | 0.5 | 0.1 | 0.6 | 0 | 0 | 0 | 0 | |
| <i>Pycnanthemum virginianum</i> | Virginia mountain-mint | L3 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0.2 | 0.3 | 0.7 | 0.6 | 0.5 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.3 | 0.3 | 0.2 | 0.3 | 0.5 | 0 | 0 | 0 | |
| <i>Erigeron philadelphicus var. philadelphicus</i> | Philadelphia fleabane | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.6 | 0 | 0 | 0 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0 | 0.2 | 0 | 0.3 | 0 | 0 | 0 | 0 | |
| <i>Epilobium ciliatum ssp. ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Asclepias tuberosa</i> | butterfly milkweed | LX | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Ratibida pinnata</i> | grey-headed coneflower | L+* | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Solidago rigida ssp. rigida</i> | stiff goldenrod | LX | Native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 27.8 | 11 | 4.6 | 3.6 | 2.1 | 1.5 | 1.1 | 2.4 | 1 | |
| <i>Medicago sativa ssp. sativa</i> | alfalfa | L+ | Non-native | Forbs | 13 | 6 | 7 | 4.2 | 5.6 | 2.8 | 0.6 | 1.2 | 0.8 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 21.8 | 0.9 | 0.2 | 0.1 | 0.4 | 0.6 | 0.1 | 0.1 | 0 | |
| <i>Lotus corniculatus</i> | bird's foot trefoil | L+ | Non-native | Forbs | 0 | 0.2 | 1.4 | 1.8 | 2 | 1.2 | 3 | 6.8 | 4.6 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 1 | 1.4 | 1.4 | 2.7 | 2.2 | 3 | 2.2 | 1.2 | 2.5 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 0.6 | 0.5 | 3.8 | 2.2 | 0.7 | 0.9 | 0.2 | 0 | 0 | |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 2.4 | 3.8 | 1 | 0.5 | 0.5 | 0.2 | 0.4 | 0 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0.4 | 1 | 1 | 2.7 | 1.6 | 0.5 | 0.2 | 0.2 | 0.2 | |
| <i>Vicia tetrasperma</i> | slender vetch | L+ | Non-native | Forbs | 0 | 0.3 | 1.2 | 0 | 0.5 | 0.5 | 0.1 | 0.1 | 0.2 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0 | 0.3 | 0.8 | 0.3 | 0.6 | 0.7 | 0 | 0 | 0 | |
| <i>Convolvulus arvensis</i> | field bindweed | L+ | Non-native | Forbs | 0 | 0.4 | 0.5 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 0.4 | 0.2 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Melilotus albus</i> | white sweet clover | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0.2 | 0.4 | 0 | 0 | 0.1 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0 | 0.4 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0.1 | 0.2 | 0 | 0 | 0 | 0 | |
| <i>Arctium minus</i> | common burdock | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Tragopogon dubius</i> | lemon-yellow goat's beard | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Epilobium parviflorum</i> | small-flowered willow-herb | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Fallopia convolvulus</i> | black bindweed | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Potentilla recta</i> | sulphur cinquefoil | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 30.2 | 11.4 | 8.7 | 4.6 | 3.2 | 2.8 | 1.5 | 1.2 | 1.1 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0 | 1.6 | 1.8 | 2.8 | 4.4 | 6.2 | 7 | 4.5 | 9.2 | |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0 | 0.2 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Sorbus aucuparia</i> | European mountain-ash | L+ | Non-native | Woody | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| Thatch | Thatch | | | | 21 | 34 | 8.3 | 55 | 40 | 54.8 | 98 | 94.6 | 87 | |
| Bare soil | Bare soil | | | | 3 | 1.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

Table 17. Plot 4.2C percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|---|-----------------------------|--------|----------------------|-------------------|-------|------|------|------|------|------|------|------|------|-----------------------|
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 1.9 | 2.6 | 2.6 | 5.4 | 3.4 | 2 | 1.2 | 0.5 | 0.1 | 80-100 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0.4 | 4.1 | 1.6 | 0.4 | 0.4 | 0 | 0 | 0 | 60-80 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 1 | 0 | 0.3 | 0.7 | 1.2 | 0.4 | 1.2 | 0.2 | 40-60 |
| <i>Poa pratensis ssp. pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0 | 30 | 58.4 | 49.6 | 25.4 | 24.4 | 25.6 | 20.4 | 46 | 20-40 |
| <i>Festuca rubra ssp. rubra</i> | red fescue | L+ | Non-native | Graminoids | 24.4 | 33 | 0.4 | 10 | 38 | 2 | 5 | 7 | 1.4 | 10-20 |
| <i>Poa pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17.6 | 5-10 |
| <i>Schedonorus pratensis</i> | meadow fescue | L+ | Non-native | Graminoids | 12.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2-5 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 3.2 | 0.2 | 1 | 1.4 | 1.3 | 0.5 | 0.3 | 0.1 | 0 | 1-2 |
| <i>Setaria pumila ssp. pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 0.6 | 1.4 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0.1-1 |
| <i>Bromus inermis</i> | smooth brome grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0.4 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0 |
| <i>Lolium arundinaceum</i> | tall fescue | L+ | Non-native | Graminoids | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Phalaris arundinacea</i> | reed canary grass | L+? | Non-native | Graminoids | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 3.6 | 0 | 0.8 | 3 | 8.6 | 21.2 | 35.4 | 41 | 32.6 | 80-100 |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 5.8 | 7.8 | 6.4 | 6.4 | 6.4 | 6.6 | 4.7 | 3.7 | 2.5 | 60-80 |
| <i>Helianthus helianthoides</i> | ox-eye | L2 | Native | Forbs | 4.8 | 2.1 | 4.3 | 4 | 2.9 | 2.8 | 2.9 | 0.3 | 0.6 | 40-60 |
| <i>Solidago rigida ssp. rigida</i> | stiff goldenrod | LX | Native | Forbs | 2 | 1.2 | 1.8 | 2.6 | 3.6 | 4 | 3.8 | 1.7 | 0.7 | 20-40 |
| <i>Pycnanthemum virginianum</i> | Virginia mountain-mint | L3 | Native | Forbs | 0.1 | 1.8 | 2.8 | 2 | 4 | 2.3 | 2.1 | 1.4 | 1.6 | 10-20 |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 1.2 | 1.8 | 2.4 | 1.8 | 3.4 | 1.6 | 1.8 | 1.6 | 5-10 |
| <i>Solidago canadensis var. canadensis</i> | Canada goldenrod | L5 | Native | Forbs | 0 | 0 | 2 | 2.4 | 5 | 0 | 0 | 0 | 0 | 2-5 |
| <i>Symphotrichum lanceolatum var. lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0 | 0.8 | 1.7 | 1 | 0.5 | 0.5 | 0.3 | 0 | 0 | 1-2 |
| <i>Silphium perfoliatum</i> | cup-plant | L+? | Native | Forbs | 0 | 0.4 | 0.9 | 0.6 | 0.7 | 0.4 | 0.2 | 0.9 | 0.4 | 0.1-1 |
| <i>Asclepias tuberosa</i> | butterfly milkweed | LX | Native | Forbs | 0 | 0.4 | 0.1 | 0.3 | 0.6 | 1.2 | 0.6 | 0.2 | 0.6 | 0 |
| <i>Ratibida pinnata</i> | grey-headed coneflower | L+* | Native | Forbs | 1.6 | 0.4 | 0 | 0.2 | 0.2 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 0 | 0.1 | 0.2 | 0.8 | 0.4 | 0 | 0 | 0 | 0 | 0 |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 0.4 | 0.2 | 0.6 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Coreopsis lanceolata</i> | lance-leaved coreopsis | L+* | Native | Forbs | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Coreopsis tripteris</i> | tall tickseed | L+* | Native | Forbs | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0.1 | 0 |
| <i>Euthamia graminifolia</i> | grass-leaved goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0.1 | 0 | 0 | 0 |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0.1 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Symphotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 30.8 | 10.2 | 10.2 | 5.2 | 2.6 | 1.4 | 1.7 | 1.8 | 0.9 | 20-40 |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 12.8 | 2.2 | 1.7 | 0.5 | 0.5 | 0.7 | 0.3 | 0.1 | 0.1 | 5-10 |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.2 | 1.4 | 1 | 5.4 | 2.8 | 1.2 | 0.7 | 0.8 | 0.4 | 2-5 |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 12 | 0 | 0 | 0.8 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 2.8 | 0.1 | 1.3 | 1.5 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0 |
| <i>Vicia tetrasperma</i> | slender vetch | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0.2 | 0.1 | 0.4 | 0.4 | 0.8 | 1.4 | 0 |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.2 | 0 | 0.2 | 1.5 | 0.1 | 0.2 | 0 | 0.1 | 0.2 | 0 |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0.7 | 0 | 0.2 | 0.8 | 0.1 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 1 | 0.6 | 0 | 0 | 0 | 0 | 0 |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Melilotus albus</i> | white sweet clover | L+ | Non-native | Forbs | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 9.4 | 15.5 | 13 | 1.7 | 1.6 | 2.4 | 6.3 | 3.2 | 2.8 | 20-40 |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.6 | 1.4 | 0.9 | 0.7 | 0.9 | 1.6 | 1.2 | 1.2 | 2.1 | 5-10 |
| <i>Cornus stolonifera</i> | red osier dogwood | L5 | Native | Woody | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Thatch | Thatch | | | | 0 | 38 | 73.4 | 63.8 | 78.4 | 79.6 | 98 | 10.8 | 85 | 80-100 |

*Only summer survey completed

Table 18. Plot 4.3D percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|-----------------------------|--------|----------------------|-------------------|-------|------|------|------|------|------|------|------|------|-----------------------|
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 17.6 | 34.1 | 14.9 | 14.4 | 17 | 4.8 | 6.4 | 3.5 | 7.7 | 80-100 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 20.8 | 18.9 | 9.2 | 3.8 | 4.2 | 1.6 | 0.2 | 0 | 0 | 60-80 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 3.8 | 3.7 | 0 | 0 | 0 | 0 | 0.2 | 0.1 | 0 | 40-60 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 20-40 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0 | 4.6 | 3.9 | 8.2 | 21.1 | 23 | 34.2 | 16.6 | 15.4 | 10-20 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 8 | 0 | 0.8 | 0.2 | 1 | 0 | 0.4 | 0.1 | 0 | 5-10 |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 1.1 | 0 | 0.6 | 0.2 | 0.2 | 0.1 | 0 | 0 | 0 | 2-5 |
| <i>Setaria pumila</i> ssp. <i>pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 0.4 | 0.2 | 0 | 0.1 | 0 | 0 | 0 | 0 | 1-2 |
| <i>Setaria faberi</i> | giant foxtail | L+ | Non-native | Graminoids | 0 | 0.4 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1-1 |
| <i>Bromus inermis</i> | smooth brome grass | L+ | Non-native | Graminoids | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Setaria viridis</i> | green foxtail | L+ | Non-native | Graminoids | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 1.2 | 5.4 | 11 | 10.6 | 10.9 | 32.6 | 30.8 | 39.6 | 37.6 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 4.9 | 11.3 | 9.6 | 6.4 | 8.2 | 7.7 | 6.4 | 4.2 | 3 | |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 6.3 | 6.8 | 9.4 | 6.2 | 5.5 | 3.8 | 4.6 | 3 | 1 | |
| <i>Fragaria virginiana</i> ssp. <i>virginiana</i> | common wild strawberry | L5 | Native | Forbs | 0.2 | 1.2 | 3.8 | 5.2 | 6 | 5.3 | 5 | 1.2 | 1.4 | |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 2 | 10.1 | 5.4 | 2.2 | 7.5 | 0.9 | 0.6 | 0.3 | 0 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 9.6 | 0.6 | 2 | 0.4 | 4.3 | 0.5 | 0.2 | 0.1 | 0.2 | |
| <i>Solidago rigida</i> ssp. <i>rigida</i> | stiff goldenrod | LX | Native | Forbs | 0.4 | 0 | 0.2 | 1.6 | 2.1 | 2.3 | 2.5 | 1.4 | 0.8 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 1.6 | 7.7 | 1.5 | 0 | 0.3 | 0 | 0 | 0.1 | 0 | |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 0.4 | 1 | 1.7 | 1.8 | 2.1 | 0.2 | 0.2 | 0.1 | 0.1 | |
| <i>Ratibida pinnata</i> | grey-headed coneflower | L+* | Native | Forbs | 1.4 | 1.4 | 1.6 | 1 | 0.4 | 0 | 0 | 0 | 0 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0.3 | 0.1 | 0.3 | 0.2 | 0.4 | 0.1 | 0.2 | 0.2 | 0.3 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0.2 | 1.2 | 0.3 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Pycnanthemum virginianum</i> | Virginia mountain-mint | L3 | Native | Forbs | 0 | 0.8 | 0.4 | 0.1 | 0.1 | 0.2 | 0 | 0 | 0.1 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0.2 | 0.2 | 1.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Solidago canadensis</i> var. <i>canadensis</i> | Canada goldenrod | L5 | Native | Forbs | 0 | 0 | 1.4 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Asclepias tuberosa</i> | butterfly milkweed | LX | Native | Forbs | 0.6 | 0.2 | 0.2 | 0.1 | 0.2 | 0 | 0 | 0 | 0 | |
| <i>Fragaria vesca</i> ssp. <i>americana</i> | woodland strawberry | L5 | Native | Forbs | 0 | 0 | 0.4 | 0.8 | 0 | 0 | 0 | 0 | 0 | |
| <i>Coreopsis tripteris</i> | tall tickseed | L+* | Native | Forbs | 0 | 0.2 | 0.3 | 0.2 | 0.2 | 0 | 0.1 | 0.2 | 0 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.2 | 0.4 | 0.2 | 0.1 | 0 | 0 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.4 | 0.2 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Oenothera parviflora</i> | smaller evening-primrose | L4 | Native | Forbs | 0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Lespedeza capitata</i> | round-headed bush-clover | L3 | Native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Fragaria virginiana</i> ssp. <i>glauca</i> | blue-leaved wild strawberry | L5 | Native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | L4 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Symphoricarum lanceolatum</i> var. <i>lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 7.6 | 8.8 | 5.6 | 5.9 | 2 | 1 | 1.2 | 0.2 | 0.6 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 7.8 | 1.2 | 0.8 | 0.2 | 0.3 | 0.7 | 0.1 | 0.1 | 0.1 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 4.3 | 0.5 | 1.9 | 3.8 | 0.1 | 0 | 0.2 | 0 | 0.1 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 1.2 | 1.3 | 0.8 | 1.6 | 0.3 | 0.4 | 0.2 | 0.1 | 0.1 | |
| <i>Potentilla recta</i> | sulphur cinquefoil | L+ | Non-native | Forbs | 0 | 0.1 | 0.8 | 1 | 0.6 | 0.4 | 0.4 | 0.2 | 0.4 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 1 | 2 | 0.1 | 0.2 | 0.1 | 0.1 | 0 | 0 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.2 | 0.4 | 1.1 | 0.8 | 0.2 | 0.2 | 0.1 | 0.1 | 0 | |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0.6 | 1.6 | 0 | 0 | |
| <i>Vicia tetrasperma</i> | slender vetch | L+ | Non-native | Forbs | 0 | 0.1 | 0.5 | 0 | 0.3 | 0.1 | 0 | 0 | 0.1 | |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 0.2 | 0.6 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0 | 0.1 | 0.4 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 0.1 | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Trifolium hybridum</i> | alsike clover | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Lotus corniculatus</i> | bird's foot trefoil | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | |
| <i>Potentilla argentea</i> | silvery cinquefoil | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Sonchus asper</i> | spiny sow-thistle | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Tragopogon dubius</i> | lemon-yellow goat's beard | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 1.2 | 2.1 | 0.8 | 1 | 1.2 | 3.4 | 5.2 | 3.6 | 1.8 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 2 | 2.5 | 2 | 0.9 | 0.7 | 4 | 3.5 | 3 | 0.6 | |
| Thatch | Thatch | | | | 0 | 40 | 67 | 60 | 48 | 76 | 82 | 89.6 | 94.4 | |
| Bare soil | Bare soil | | | | 0 | 0.4 | 0.4 | 0 | 0 | 0 | 0 | 0.4 | 0.2 | |

*Only summer survey completed

Table 19. Plot 4.3E percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|-----------------------------|--------|----------------------|-------------------|-------|------|------|------|------|------|------|------|------|-----------------------|
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 5.2 | 21.4 | 29.2 | 21.2 | 21.8 | 23.4 | 19.6 | 11 | 7.2 | 80-100 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 14.8 | 4.1 | 1.2 | 5.3 | 3.3 | 3 | 0.8 | 0 | 0 | 60-80 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 4.2 | 4.4 | 0.6 | 0.9 | 0.4 | 0.1 | 0.1 | 0 | 0 | 40-60 |
| <i>Poa pratensis ssp. pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0 | 5.8 | 22.2 | 7.4 | 30 | 22 | 53 | 25.6 | 27.6 | 20-40 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 13.1 | 0.6 | 1.1 | 0 | 0.6 | 0.4 | 0.3 | 0.4 | 0.4 | 10-20 |
| <i>Bromus inermis</i> | smooth brome grass | L+ | Non-native | Graminoids | 0 | 0.8 | 1.6 | 0.4 | 4 | 3 | 3.2 | 0 | 0 | 5-10 |
| <i>Festuca rubra ssp. rubra</i> | red fescue | L+ | Non-native | Graminoids | 7 | 0 | 1 | 4.8 | 0 | 0 | 0 | 0 | 0 | 2-5 |
| <i>Agrostis gigantea</i> | redtop | L+ | Non-native | Graminoids | 0 | 4 | 0.2 | 0.2 | 0 | 0 | 0 | 0 | 0 | 1-2 |
| <i>Agrostis stolonifera</i> | creeping bent grass | L+? | Non-native | Graminoids | 2.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1-1 |
| <i>Carex spicata</i> | spiked sedge | L+ | Non-native | Graminoids | 0 | 0.2 | 0.6 | 0.6 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0 |
| <i>Schedonorus pratensis</i> | meadow fescue | L+ | Non-native | Graminoids | 1.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Carex spicata</i> | spiked sedge | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| <i>Setaria pumila ssp. pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0.3 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 3.8 | 14 | 16 | 19.6 | 23 | 30.6 | 26 | 24.4 | 26.2 | 80-100 |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 9.4 | 11.8 | 10.1 | 9.6 | 6.8 | 6.6 | 5 | 5.6 | 6.2 | 60-80 |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 5.8 | 11.2 | 13.2 | 7.6 | 6.2 | 6.7 | 4.2 | 4.1 | 0.7 | 40-60 |
| <i>Coreopsis tripteris</i> | tall tickseed | L* | Native | Forbs | 4 | 10.4 | 7.7 | 1.2 | 4 | 0.2 | 0.1 | 0.2 | 0 | 20-40 |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 4.8 | 1.8 | 1.8 | 2.2 | 2.6 | 3 | 1.4 | 0.5 | 0.3 | 10-20 |
| <i>Silphium perfoliatum</i> | cup-plant | L+? | Native | Forbs | 0 | 1.4 | 1.2 | 1 | 1.4 | 1.8 | 1.2 | 4.9 | 3.7 | 5-10 |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 4.2 | 2.3 | 3.4 | 1.6 | 0.6 | 1.3 | 0.3 | 0 | 0 | 0 |
| <i>Solidago canadensis var. canadensis</i> | Canada goldenrod | L5 | Native | Forbs | 0.4 | 0 | 5 | 1.2 | 1.2 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 2.2 | 1.4 | 1.2 | 1 | 0.4 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Asclepias tuberosa</i> | butterfly milkweed | LX | Native | Forbs | 0.4 | 0.1 | 0.8 | 0.2 | 0.5 | 0.4 | 0.1 | 0.2 | 1.2 | 0 |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 2.3 | 0.3 | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Asclepias sullivantii</i> | smooth milkweed | LX | Native | Forbs | 0 | 0.4 | 0.4 | 0 | 0.2 | 0.1 | 0.6 | 0.4 | 0.6 | 0 |
| <i>Vernonia missurica</i> | Missouri ironweed | L* | Native | Forbs | 0 | 0.4 | 0.2 | 0 | 0.2 | 0.2 | 0.4 | 0.6 | 0.6 | 0 |
| <i>Pycnanthemum virginianum</i> | Virginia mountain-mint | L3 | Native | Forbs | 0 | 0.1 | 0.1 | 0.2 | 0.4 | 0.6 | 0.1 | 0.2 | 0.2 | 0 |
| <i>Coreopsis lanceolata</i> | lance-leaved coreopsis | L* | Native | Forbs | 1.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 1.2 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Ratibida pinnata</i> | grey-headed coneflower | L* | Native | Forbs | 0.6 | 0.4 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0.8 | 0.2 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0.8 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Oenothera parviflora</i> | smaller evening-primrose | L4 | Native | Forbs | 0.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Lespedeza capitata</i> | round-headed bush-clover | L3 | Native | Forbs | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Hibiscus moscheutos</i> | swamp rose-mallow | L+? | Native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Vernonia gigantea</i> | tall ironweed | L* | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 13.4 | 6.6 | 4.6 | 0 | 0.5 | 0.7 | 0.2 | 0 | 0.1 | 0 |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 4.2 | 0.3 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 2.3 | 0.5 | 0.5 | 0.1 | 0.1 | 0 | 0 | 0 | 0.1 | 0 |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0.2 | 0.5 | 0.8 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0 | 0 |
| <i>Stellaria graminea</i> | grass-leaved chickweed | L+ | Non-native | Forbs | 1.1 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0.1 | 0 |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0 | 0.2 | 0.2 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0.1 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0 |
| <i>Vicia tetrasperma</i> | slender vetch | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0.1 | 0 |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 | 0 |
| <i>Potentilla argentea</i> | silvery cinquefoil | L+ | Non-native | Forbs | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Stellaria media</i> | common chickweed | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 |
| <i>Veronicastrum virginicum</i> | Culver's root | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 6 | 1.3 | 1.3 | 0.1 | 0.4 | 0.2 | 0.1 | 0.1 | 1.2 | 0 |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0 | 0.1 | 1 | 0.1 | 0.2 | 0.3 | 0.3 | 0.4 | 0.5 | 0 |
| <i>Rhus typhina</i> | staghorn sumach | L5 | Native | Woody | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0.1 | 0.1 | 0 |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Thatch | Thatch | | | | 0 | 27.4 | 77.2 | 0 | 67 | 90 | 99.2 | 94.6 | 90.8 | 0 |
| Bare soil | Bare soil | | | | 0 | 0 | 0 | 0.6 | 0 | 0.2 | 0 | 0 | 0.2 | 0 |

*Only summer survey completed

Table 20. Plot 4.3F percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020* | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|---|-----------------------------|--------|----------------------|-------------------|-------|------|-------|-------|------|------|------|------|------|-------------------------------|
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 3.3 | 11 | 4.2 | 4.8 | 8.4 | 2 | 5 | 5 | 3.4 | 80-100 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0.5 | 3.6 | 2.2 | 3 | 0.8 | 2.6 | 2 | 0 | 0 | 60-80 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 1 | 0.5 | 0.5 | 1.6 | 0.8 | 0.2 | 0.9 | 0.1 | 0.2 | 40-60 |
| <i>Dichanthelium implicatum</i> | hairy panic grass | L4 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 20-40 |
| <i>Poa pratensis ssp. pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0 | 11 | 5.5 | 7.1 | 11 | 6.3 | 7.4 | 12.4 | 17.4 | 10-20 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 9.6 | 2.6 | 0.9 | 1.2 | 1.1 | 0.8 | 0.4 | 0.1 | 0 | 5-10 |
| <i>Setaria pumila ssp. pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0.3 | 3.2 | 1.5 | 1.3 | 0.4 | 0.1 | 0 | 0 | 0 | 2-5 |
| <i>Agrostis stolonifera</i> | creeping bent grass | L+? | Non-native | Graminoids | 6.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1-2 |
| <i>Schedonorus pratensis</i> | meadow fescue | L+ | Non-native | Graminoids | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1-1 |
| <i>Festuca rubra ssp. rubra</i> | red fescue | L+ | Non-native | Graminoids | 1 | 0 | 0 | 3.2 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| <i>Agrostis gigantea</i> | redtop | L+ | Non-native | Graminoids | 1.8 | 0 | 0.4 | 0 | 0.8 | 0.2 | 0 | 0 | 0 | *Only summer survey completed |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 0.2 | 0.5 | 0.6 | 0 | 0.4 | 0 | 0 | 0 | 0 | |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 0.8 | 0 | 0 | 0 | 0.2 | 0.2 | 0 | 0 | 0 | |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 0 | 0.2 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 2.4 | 4.7 | 14 | 33.7 | 48 | 55.4 | 51.4 | 62.8 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 13.8 | 4.7 | 3.7 | 5.4 | 4.7 | 6.4 | 11.4 | 5.6 | 5.6 | |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 3 | 7.2 | 15.4 | 4.8 | 5 | 7.8 | 5 | 4 | 1.1 | |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 4.6 | 5.2 | 5 | 3.5 | 2 | 2.9 | 2.7 | 0.1 | 0 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 5.2 | 0.9 | 2.2 | 4.8 | 1 | 0.6 | 0.3 | 0.2 | 0.2 | |
| <i>Coreopsis tripteris</i> | tall tickseed | L+* | Native | Forbs | 3 | 4.5 | 4.3 | 0.3 | 1 | 1 | 0.4 | 0.3 | 0.4 | |
| <i>Silphium perfoliatum</i> | cup plant | L+?* | Native | Forbs | 2.6 | 5.8 | 2.4 | 1 | 2.1 | 0.3 | 0.6 | 0.2 | 0.2 | |
| <i>Asclepias tuberosa</i> | butterfly milkweed | LX | Native | Forbs | 0 | 0.4 | 0.6 | 2.2 | 3.2 | 1.2 | 3.8 | 1.8 | 0.4 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0.8 | 1.8 | 2 | 0.5 | 0.8 | 1.4 | 1.6 | 1.1 | 0.3 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0.1 | 5.2 | 2.2 | 0 | 0 | 0 | 0 | 0 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 2.6 | 0.5 | 1.6 | 0 | 0.2 | 0.1 | 0 | 0.2 | 0 | |
| <i>Solidago canadensis var. canadensis</i> | Canada goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 2.6 | 2 | 0 | 0 | 0 | 0 | |
| <i>Coreopsis lanceolata</i> | lance-leaved coreopsis | L+* | Native | Forbs | 2.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 0 | 1.4 | 1 | 0.3 | 0.1 | 0 | 0 | 0 | |
| <i>Potentilla norvegica</i> | rough cinquefoil | L+?* | Native | Forbs | 0 | 0.5 | 1.7 | 0.4 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0.4 | 0 | 0.1 | 1.6 | 0 | 0 | 0 | 0 | 0 | |
| <i>Epilobium ciliatum ssp. ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0.2 | 1.3 | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Symphotrichum lanceolatum var. lanceolatum</i> | panicked aster | L5 | Native | Forbs | 0 | 0 | 0.4 | 0.4 | 0.3 | 0.2 | 0.1 | 0 | 0 | |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 0 | 0.8 | 0.3 | 0.2 | 0 | 0 | 0 | 0 | 0 | |
| <i>Ratibida pinnata</i> | grey-headed coneflower | L+* | Native | Forbs | 0.2 | 0 | 0 | 0 | 0.4 | 0 | 0.1 | 0.1 | 0 | |
| <i>Hibiscus moscheutos</i> | swamp rose-mallow | L+?* | Native | Forbs | 0 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0 | 0 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0.2 | 0 | 0.2 | 0.1 | 0.2 | 0 | 0 | 0 | 0.1 | |
| <i>Oenothera parviflora</i> | smaller evening-primrose | L4 | Native | Forbs | 0.4 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Galium aparine</i> | cleavers | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | |
| <i>Geum canadense</i> | white avens | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.4 | 0 | 0 | 0 | 0 | 0 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 13.8 | 4 | 3 | 0.2 | 2.8 | 3 | 1.8 | 0.5 | 0.3 | |
| <i>Vicia tetrasperma</i> | slender vetch | L+ | Non-native | Forbs | 0 | 0.8 | 21.5 | 1.1 | 1 | 0.7 | 0.3 | 0.1 | 0.2 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 14.4 | 0.6 | 0.6 | 0.3 | 0.4 | 0.9 | 0.3 | 0.2 | 0 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 8.1 | 2.9 | 0 | 0.1 | 0 | 0 | 0 | 0.1 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 3.8 | 0.4 | 3.8 | 0.4 | 0.4 | 0.3 | 0 | 0.1 | 0 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 2.7 | 0.4 | 0.3 | 0.8 | 0.6 | 0.4 | 0.5 | 0.1 | 0.1 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.4 | 0.1 | 0 | 0.4 | 0.5 | 1.4 | 0.6 | 1.3 | 0.2 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.1 | 0.5 | 3.3 | 0.2 | 0.2 | 0.3 | 0.1 | 0.1 | 0.1 | |
| <i>Stellaria graminea</i> | grass-leaved chickweed | L+ | Non-native | Forbs | 0.5 | 3.6 | 0.1 | 0 | 0.1 | 0.2 | 0 | 0.1 | 0.1 | |
| <i>Vicia sativa var. angustifolia</i> | common vetch | L+ | Non-native | Forbs | 0 | 0.2 | 0.8 | 0 | 0.4 | 0.6 | 0.2 | 0.1 | 0.2 | |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0.1 | 0.4 | 0.1 | 0.2 | 0.3 | 0.7 | 0.3 | 0.2 | 0.1 | |
| <i>Veronica serpyllifolia ssp. serpyllifolia</i> | thyme-leaved speedwell | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.8 | 0.1 | 0.4 | 0 | 0 | 0 | |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 0.4 | 0.2 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Convolvulus arvensis</i> | field bindweed | L+ | Non-native | Forbs | 0 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 0.1 | 0.2 | 0.1 | 0 | 0 | 0 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0.1 | 0.2 | 0.1 | 0 | 0 | |
| <i>Artemisia vulgaris</i> | common mugwort | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | |
| <i>Geum urbanum</i> | urban avens | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Melilotus albus</i> | white sweet clover | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Potentilla recta</i> | sulphur cinquefoil | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Silene latifolia</i> | evening lychnis | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 10 | 11.4 | 1.6 | 3.8 | 1.4 | 1.4 | 1.5 | 1 | 0.3 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.8 | 0.4 | 0.2 | 0.2 | 0.2 | 0.4 | 0.8 | 0.8 | 1 | |
| <i>Parthenocissus vitacea</i> | thicket creeper | L5 | Native | Woody | 0 | 0 | 0.2 | 0 | 0.1 | 0.6 | 0.8 | 0.1 | 0.3 | |
| <i>Parthenocissus inserta</i> | thicket creeper | L5 | Native | Woody | 0 | 0 | 0 | 0 | 0 | 0.3 | 0 | 0 | 0 | |
| <i>Tilia americana</i> | basswood | L5 | Native | Woody | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Ulmus pumila</i> | Siberian elm | L+ | Non-native | Woody | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| Thatch | Thatch | | | | 0 | 24.4 | 141.8 | 0 | 33.2 | 58.8 | 94 | 88.4 | 84 | |
| Bare soil | Bare soil | | | | 0 | 0.8 | 2.2 | 0 | 0 | 0 | 1 | 0.2 | 0 | |

Table 21. Plot 4.4J percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020* | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|-----------------------------|--------|----------------------|-------------------|-------|------|------|-------|------|------|------|------|------|-----------------------|
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0.3 | 0.2 | 0 | 0.2 | 2.6 | 0.8 | 0.2 | 0.2 | 80-100 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0.1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60-80 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0.2 | 0 | 0 | 0.8 | 0.1 | 0 | 0 | 0 | 0 | 40-60 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0 | 0.2 | 0.1 | 0.1 | 0.2 | 0 | 0 | 0 | 20-40 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0.6 | 10.1 | 27 | 18 | 20.4 | 15.5 | 28.2 | 30.6 | 12.1 | 10-20 |
| <i>Poa pratensis ssp. pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0.3 | 7.4 | 21.6 | 19.6 | 28.6 | 14 | 30.2 | 18.2 | 21 | 5-10 |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 0 | 0 | 6.5 | 17 | 8 | 7.6 | 3 | 1.5 | 0.3 | 2-5 |
| <i>Festuca rubra ssp. rubra</i> | red fescue | L+ | Non-native | Graminoids | 0.1 | 0.1 | 4 | 31.6 | 0 | 0.1 | 0.1 | 0.8 | 0.4 | 1-2 |
| <i>Setaria pumila ssp. pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 1.5 | 3.5 | 0.1 | 0.2 | 0 | 1.1 | 0.1 | 0 | 0 | 0.1-1 |
| <i>Bromus inermis</i> | smooth brome grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.1 | 3 | 0 | 0 | 0 |
| <i>Bromus japonicus</i> | Japanese chess | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0.1 | 0.1 | 0.5 | 0.8 | 1 | 0.1 | |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 0 | 0 | 1.6 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 0 | 1.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Bromus tectorum</i> | downy chess | L+ | Non-native | Graminoids | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 0 | 2 | 1.5 | 2 | 4.4 | 10.4 | 10.2 | 17.5 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0 | 0.6 | 0.3 | 0.2 | 1.2 | 3.9 | 6.4 | 13.2 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 1.8 | 1.9 | 2.1 | 0.8 | 0.4 | 2.6 | 7.8 | 3.6 | 1 | |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 0 | 0 | 0.1 | 0 | 0.1 | 0.4 | 0.6 | 2.4 | 4.2 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0.1 | 0.5 | 0 | 0.2 | 0.1 | 0.4 | 2 | 2.8 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.1 | 0.1 | 0.5 | 0.8 | 1 | 0.1 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 0.2 | 0 | 0.3 | 0 | 0.6 | 1.8 | 1 | 0.5 | |
| <i>Senna hebecarpa</i> | wild senna | L+* | Native | Forbs | 0 | 0 | 1.4 | 0.8 | 0.2 | 0 | 0 | 0 | 0 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0.4 | 0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.4 | 0.2 | 0.1 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 | 0.1 | 0.1 | |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 0 | 0 | 0.2 | 0 | 0.2 | 0 | 0.2 | 0 | |
| <i>Epilobium ciliatum ssp. ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.1 | 0.2 | 0.1 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Erigeron philadelphicus var. philadelphicus</i> | Philadelphia fleabane | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Symphotrichum ericoides var. ericoides</i> | heath aster | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Symphotrichum lanceolatum var. lanceolatum</i> | panicked aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Symphotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 75.4 | 18.2 | 14.4 | 2 | 5.8 | 11 | 6.2 | 2.7 | 2.6 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 14.1 | 26.4 | 7.1 | 2.2 | 0.8 | 3.9 | 4.8 | 6.2 | 2.7 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0 | 10.2 | 1.9 | 1.3 | 0.3 | 1.1 | 1.8 | 0.5 | 1.5 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 2.8 | 3 | 4.4 | 0.1 | 0 | 0.5 | 1.7 | 0 | 1.4 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.1 | 4.8 | 4.2 | 0 | 0.2 | 2.6 | 0.4 | 0.1 | 0.1 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 4.3 | 2.4 | 1.2 | 0.5 | 0.2 | 0.4 | 0.3 | 0.5 | 0.4 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 1.1 | 0.2 | 3.2 | 0.2 | 0.1 | 1.3 | 1.2 | 0.1 | 0.6 | |
| <i>Vicia tetrasperma</i> | slender vetch | L+ | Non-native | Forbs | 0 | 0.3 | 0 | 0 | 0.1 | 5.4 | 1.9 | 0.1 | 0.1 | |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0.1 | 0 | 2.1 | 0.1 | 0.1 | 1.2 | 0.2 | 0.2 | 0 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0.7 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0.1 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 0 | |
| <i>Mellilotus albus</i> | white sweet clover | L+ | Non-native | Forbs | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Silene vulgaris</i> | bladder campion | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Vicia sativa var. angustifolia</i> | common vetch | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 1.5 | 8 | 8.6 | 7.2 | 7.4 | 3.2 | 4.7 | 6.4 | 5.3 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0 | 0 | 0.1 | 0.2 | 0.3 | 0 | 0 | 0 | 0.3 | |
| <i>Acer platanoides</i> | Norway maple | L+ | Non-native | Woody | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Thatch | Thatch | | | | 0 | 1 | 40 | 0 | 74.5 | 50 | 17.2 | 9 | 34 | |
| Bare soil | Bare soil | | | | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.4 | 0 | 2 | |

*Only summer survey completed

Table 22. Plot 4.4K percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020* | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|-----------------------------|--------|----------------------|-------------------|-------|------|------|-------|------|------|------|------|------|-----------------------|
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0 | 0.2 | 0 | 0 | 2.4 | 0.1 | 0 | 0.2 | 80-100 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0.4 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60-80 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 40-60 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20-40 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10-20 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0.6 | 9.2 | 8.2 | 28.6 | 41 | 26.4 | 37 | 24 | 21.4 | 5-10 |
| <i>Bromus inermis</i> | smooth brome grass | L+ | Non-native | Graminoids | 0.6 | 3.4 | 8.2 | 12.8 | 8 | 9 | 10 | 4.1 | 2.6 | 2-5 |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 0 | 0.3 | 2.8 | 4.2 | 1.8 | 1.5 | 5.8 | 1.5 | 0.8 | 1-2 |
| <i>Setaria pumila</i> ssp. <i>pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 6 | 8 | 0.5 | 2.5 | 0 | 0.6 | 0.1 | 0 | 0 | 0.1-1 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 1.2 | 0.2 | 5 | 1.6 | 1.4 | 1.3 | 0.4 | 0.4 | 0.1 | 0 |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 0.4 | 1 | 0.1 | 0 | 0.6 | 0.8 | 0 | 0 | 0.2 | |
| <i>Schedonorus pratensis</i> | meadow fescue | L+ | Non-native | Graminoids | 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 | 0 | 0 | |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 0 | 0.1 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 0.1 | 2 | 2.2 | 4 | 5.2 | 14.4 | 27.8 | 36.6 | |
| <i>Symphoricarum lanceolatum</i> var. <i>lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0 | 0 | 0 | 0.4 | 0.4 | 1.4 | 4.4 | 3.5 | 11 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 2.4 | 0.9 | 5 | 0.4 | 0.3 | 0.5 | 2.8 | 0.5 | 0.2 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0.2 | 1.2 | 1.1 | 1 | 2 | 1.2 | 0.8 | 0.4 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 1.2 | 0.8 | 2 | 0 | 0.2 | 0.8 | 0.6 | 0.5 | 0.1 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0.1 | 0.8 | 0 | 0.1 | 0.3 | 3.4 | 0.2 | 0 | |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 0 | 2.4 | 1.2 | 0.4 | 0.1 | 0.1 | 0 | 0 | 0.2 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.8 | 1.8 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 1.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Galium aparine</i> | cleavers | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.8 | 0 | |
| <i>Helianthus helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 0.8 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 | 0 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0.2 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Coreopsis tripteris</i> | tall tickseed | L+* | Native | Forbs | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Potentilla norvegica</i> | rough cinquefoil | L+7* | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 7.5 | 54 | 32 | 6.8 | 5.8 | 5.6 | 3.4 | 2.2 | 3.8 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 4.6 | 4.8 | 19.1 | 13.2 | 8.6 | 0.1 | 1.3 | 0.1 | 0.4 | |
| <i>Lotus corniculatus</i> | bird's foot trefoil | L+ | Non-native | Forbs | 0 | 6 | 4 | 5 | 1.8 | 1 | 2.6 | 4 | 4.4 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0.1 | 14.8 | 2.7 | 3 | 0.3 | 0.3 | 1.5 | 0.8 | 0.8 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 5.2 | 4.4 | 2.8 | 0.8 | 1.2 | 1.3 | 2.2 | 1.8 | 1.6 | |
| <i>Convolvulus arvensis</i> | field bindweed | L+ | Non-native | Forbs | 0.1 | 0.8 | 2 | 2.6 | 1.8 | 4 | 2 | 2.6 | 2 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0 | 3.7 | 8.6 | 0 | 0.2 | 0.5 | 1.2 | 0.1 | 0 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 4.6 | 0.3 | 3.2 | 0.3 | 0.1 | 0.5 | 1.9 | 0.2 | 1.4 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0.9 | 2.8 | 0.5 | 0 | 0.1 | 0.1 | 0 | 0.1 | 0.1 | |
| <i>Vicia tetrasperma</i> | slender vetch | L+ | Non-native | Forbs | 0 | 0.1 | 0.4 | 0 | 0.1 | 0.3 | 1.4 | 0 | 0.2 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0.4 | 1.2 | 0 | 0 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 1.7 | 0 | 0 | |
| <i>Medicago sativa</i> ssp. <i>sativa</i> | alfalfa | L+ | Non-native | Forbs | 0 | 0.8 | 0.1 | 0 | 0.2 | 0 | 0.2 | 0 | 0 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0.1 | 0.2 | 0.8 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| <i>Potentilla recta</i> | sulphur cinquefoil | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0.6 | 0.3 | 0.1 | |
| <i>Geum urbanum</i> | urban avens | L+ | Non-native | Forbs | 0 | 0.4 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 0.2 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Coreopsis grandiflora</i> | large-flowered tickseed | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| <i>Vicia sativa</i> var. <i>angustifolia</i> | common vetch | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| <i>Trifolium hybridum</i> | alsike clover | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 3.2 | 13.1 | 6.2 | 4.2 | 6 | 6.8 | 6.1 | 10.8 | 11.9 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.2 | 0.8 | 0.8 | 0.4 | 0.5 | 0.7 | 1.4 | 1.8 | 2.8 | |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Thatch | Thatch | | | | 0 | 4.4 | 6.4 | 0 | 54 | 12 | 91.4 | 43.6 | 42 | |
| Bare soil | Bare soil | | | | 0 | 0 | 0 | 0 | 0 | 1 | 0.2 | 0.4 | 1.8 | |

*Only summer survey completed

Table 23. Plot 4.4L percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020* | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|---|-----------------------------|--------|----------------------|-------------------|-------|------|------|-------|------|------|------|------|------|-----------------------|
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 2 | 3 | 5 | 2 | 1 | 5 | 4.6 | 6 | 80-100 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0.1 | 2.6 | 4.2 | 1.3 | 1.3 | 2.3 | 1.1 | 0.5 | 0.5 | 60-80 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0.4 | 0.4 | 0.2 | 1.2 | 0.4 | 0.8 | 0.8 | 0.8 | 0.1 | 40-60 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0 | 0 | 0.1 | 0 | 0.1 | 0.1 | 0.1 | 0 | 20-40 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0.9 | 10.6 | 25 | 47 | 42 | 20 | 10.2 | 12.4 | 16.6 | 10-20 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0.7 | 6.2 | 20.2 | 4.3 | 14 | 9.6 | 13.8 | 6.6 | 3.2 | 5-10 |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 0 | 0 | 0.6 | 0 | 5 | 2.6 | 0.6 | 3 | 2.1 | 2-5 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 0 | 3.5 | 1.6 | 0.4 | 0 | 0 | 0 | 0 | 0 | 1-2 |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 0 | 0 | 0.9 | 0.5 | 0.3 | 0.2 | 0.8 | 0 | 0.1 | 0.1-1 |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 0 | 0 | 2.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 0 | 1 | 0.4 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Setaria pumila</i> ssp. <i>pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Schedonorus pratensis</i> | meadow fescue | L+ | Non-native | Graminoids | 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.6 | 0.9 | 2.6 | 12.2 | 17.2 | 34.4 | 80-100 |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 0 | 1.3 | 8 | 5.4 | 5.9 | 6.6 | 4.5 | 2.3 | 0.6 | 60-80 |
| <i>Symphyotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicked aster | L5 | Native | Forbs | 0 | 0 | 0.3 | 0.1 | 0 | 0 | 5.2 | 5 | 0.8 | 40-60 |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.6 | 3 | 5 | 1 | 20-40 |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0 | 0.4 | 0 | 0.2 | 0 | 1.4 | 2 | 4.8 | 10-20 |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 0.5 | 0.1 | 0.1 | 0.1 | 0.1 | 5.3 | 1.4 | 0.1 | 5-10 |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0.1 | 0.1 | 0.6 | 0.5 | 1.1 | 0.8 | 1.4 | 1 | 2-5 |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 1.2 | 0.2 | 0 | 0.1 | 0.1 | 0.1 | 1.4 | 0.8 | 0.2 | 1-2 |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0.4 | 1.5 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0.1-1 |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0.6 | 0.2 | 0 | 0 | 0 | 0.2 | 0.1 | 0.1 | 0 |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0.3 | 0.2 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0.1 | 0 | 0 |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0.1 | 0.4 | 0 | 0 | 0 |
| <i>Solidago canadensis</i> var. <i>canadensis</i> | Canada goldenrod | L5 | Native | Forbs | 0 | 0.2 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0.2 | 0 | 0.1 | 0 | 0 | 0.1 | 0.1 | 0.1 | 0 | 0 |
| <i>Fragaria virginiana</i> ssp. <i>virginiana</i> | common wild strawberry | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 74 | 34 | 24.8 | 6 | 9.8 | 11.6 | 5.8 | 5.2 | 2.8 | 80-100 |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0.5 | 44.4 | 2.4 | 1.7 | 1.1 | 1.5 | 2.3 | 0.3 | 0.3 | 60-80 |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 8 | 10.8 | 8.2 | 5.4 | 4.7 | 3.9 | 4 | 3 | 2.7 | 40-60 |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 9.6 | 2.4 | 5.6 | 2.5 | 0.3 | 0.3 | 0.1 | 0 | 0.1 | 20-40 |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 5.1 | 2.4 | 0.7 | 1.2 | 1.7 | 1.4 | 0.4 | 0.3 | 0.2 | 10-20 |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0.8 | 0 | 0 | 0.1 | 2.1 | 6.4 | 1.7 | 0.7 | 0.6 | 5-10 |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 4 | 0.1 | 0.6 | 0.1 | 0.1 | 0.1 | 1.4 | 0 | 0.1 | 2-5 |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.4 | 0.2 | 1-2 |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.2 | 0.7 | 0.6 | 0.1 | 0.3 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Vicia tetrasperma</i> | slender vetch | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 1.2 | 0.5 | 0.2 | 0 | 0 | 0 |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 1.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Veronica serpyllifolia</i> ssp. <i>serpyllifolia</i> | thyme-leaved speedwell | L+ | Non-native | Forbs | 0 | 0.2 | 0.4 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Dipsacus fullonum</i> | teasel | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0 | 0.2 | 0.9 | 3.8 | 0.8 | 0.9 | 2.6 | 7.8 | 5.8 | 80-100 |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.2 | 1 | 1 | 0.8 | 0.4 | 0.4 | 0.6 | 1.7 | 2.3 | 60-80 |
| <i>Ulmus pumila</i> | Siberian elm | L+ | Non-native | Woody | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| Thatch | Thatch | | | | 0 | 0.8 | 5.4 | 0 | 70 | 83.4 | 84 | 80.9 | 98.2 | 80-100 |
| Bare soil | Bare soil | | | | 0 | 0 | 0 | 4 | 0 | 1.4 | 0.8 | 0 | 0 | 0 |

*Only summer survey completed

Section 5

Section 5.1

Plot 5.1AC was monitored in 2020 (pre-restoration) and in 2023-2025 after seeding in 2023 (Table 24). The cover of native grasses in 2025 was higher than in previous years reaching 8% cover for big bluestem (*Andropogon gerardii*). In contrast, previously dominant non-native grasses, such as red fescue (*Festuca rubra* ssp. *rubra*) and orchard grass (*Dactylis glomerata*) remain at low cover in 2025. Native forbs with the highest cover in 2025 were tall goldenrod (12.2%), black-eyed Susan (6%), and common milkweed (4.8%). The percent cover of creeping thistle and DSV were very low (0-1.2%).

Section 5.3

Plot 5.3AD was monitored pre-restoration in 2020 and from 2023-2025, with seeding occurring in 2022, 2023, and 2024 (Table 25). In 2020, the area consisted primarily of turfgrass dominated by Kentucky bluegrass and dandelion. By 2025, native forb cover was highest for ox-eye (14.4%) and tall goldenrod (10.2%). Dominant non-native forbs included dandelion (9%) and red clover (8.2%). The percent cover of creeping thistle and DSV were very low (0-1%).

Section 5.4

Plot 5.4AE was monitored pre-restoration in 2020 and from 2023-2025, with seeding occurring in 2022 and 2024 (Table 26). Prior to restoration, the plot was dominated by red fescue, Kentucky bluegrass, and dandelion. The cover of native grasses remains low in 2025 (<0.5%), with non-native grasses still present (e.g. 23% cover of Kentucky bluegrass). Native forbs with the highest cover in 2025 included tall goldenrod (11.5%), wild bergamot (4.8%), and ox-eye (2.8%). Non-native forbs with high cover in 2025 included white clover (*Trifolium repens*; 29.6%) and dandelion (23.4%). The percent cover of creeping thistle and DSV were very low (0-1.6%).

Table 24. Plot 5.1AC percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2020 | 2023 | 2024 | 2025 | Average Percent Cover |
|---|-----------------------------|--------|----------------------|-------------------|------|------|------|------|-----------------------|
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 1 | 2 | 8 | 80-100 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0.5 | 1.8 | 7.4 | 60-80 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 0.3 | 1.1 | 5.8 | 40-60 |
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 0.2 | 1.6 | 2.2 | 20-40 |
| <i>Sporobolus vaginiflorus</i> | ensheathed dropseed | L+?* | Native | Graminoids | 0.4 | 0.4 | 0.2 | 0.4 | 10-20 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 0 | 0.2 | 0.2 | 5-10 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0.2 | 0 | 0 | 2-5 |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 24.8 | 0 | 0 | 0 | 1-2 |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 17.8 | 0 | 0 | 0.2 | 0.1-1 |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 5.8 | 0.8 | 0 | 0 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 4.2 | 0 | 0 | 0 | |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0.3 | 0.1 | 0.3 | 0.4 | |
| <i>Triticum aestivum</i> | wheat | L+ | Non-native | Graminoids | 0 | 0.6 | 0.1 | 0 | |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0 | 0.1 | 0.1 | 0 | |
| <i>Phalaris arundinacea</i> | reed canary grass | L+? | Non-native | Graminoids | 0.2 | 0 | 0 | 0 | |
| <i>Setaria pumila</i> ssp. <i>pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | |
| <i>Elymus</i> sp. | wild rye sp. | | | Graminoids | 0 | 0 | 0 | 0.4 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 10.2 | 13.6 | 1.2 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 0.4 | 5.6 | 12.2 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 4.1 | 9 | 4.8 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 0.2 | 4 | 6 | |
| <i>Fragaria virginiana</i> ssp. <i>virginiana</i> | common wild strawberry | L5 | Native | Forbs | 3.4 | 0 | 0 | 0 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 1.5 | 1 | 0 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.3 | 0.5 | 1.3 | |
| <i>Symphyotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0 | 0 | 0 | 1.6 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0 | 0.7 | 0.2 | |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0 | 0.3 | 0.5 | |
| <i>Asclepias tuberosa</i> | butterfly milkweed | LX | Native | Forbs | 0 | 0.2 | 0.1 | 0.2 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0 | 0.2 | |
| <i>Lespedeza capitata</i> | round-headed bush-clover | L3 | Native | Forbs | 0 | 0 | 0.2 | 0 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.1 | 0 | 0 | |
| <i>Symphyotrichum ericoides</i> var. <i>ericoides</i> | heath aster | L5 | Native | Forbs | 0.1 | 0 | 0 | 0 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 4 | 21 | 58 | 3.2 | |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 0 | 25.4 | 3.2 | 0 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 11.4 | 1.8 | 3.8 | 7.6 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0.1 | 0.4 | 2.9 | 15.4 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0.8 | 4.2 | 3.8 | 7.2 | |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 2.1 | 1.1 | 2.5 | 1.9 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0 | 0 | 1.2 | 3.4 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 3.3 | 0.9 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0 | 0 | 0.4 | 0.7 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0.9 | 0 | 0 | 0.1 | |
| <i>Fallopia convolvulus</i> | black bindweed | L+ | Non-native | Forbs | 0 | 0.6 | 0.2 | 0.1 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0.4 | |
| <i>Trifolium hybridum</i> | alsike clover | L+ | Non-native | Forbs | 0.4 | 0 | 0 | 0 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0 | |
| <i>Sonchus asper</i> | spiny sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0 | 0 | 1.2 | 0.4 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.4 | 0 | 0 | 0 | |
| <i>Acer negundo</i> | Manitoba maple | L+?* | Native | Woody | 0 | 0 | 0.1 | 0 | |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0.1 | 0 | 0 | 0 | |
| Bare soil | Bare soil | | | | 2.8 | 96 | 3.8 | 2.7 | |
| Thatch | Thatch | | | | 6 | 0 | 2.2 | 8.2 | |

Table 25. Plot 5.3 AD percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2020 | 2023 | 2024 | 2025 | Average Percent Cover |
|---|-----------------------------|--------|----------------------|-------------------|------|------|------|------|-----------------------|
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 0.6 | 1.6 | 0.8 | 80-100 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0.1 | 1 | 1.4 | 60-80 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0.1 | 0.1 | 0.4 | 40-60 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 0.1 | 0.2 | 0.1 | 20-40 |
| <i>Juncus bufonius</i> | toad rush | L5 | Native | Graminoids | 0 | 0.2 | 0 | 0 | 10-20 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0.1 | 0 | 0 | 5-10 |
| <i>Poa pratensis ssp. pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 25.2 | 0.2 | 4.3 | 27.6 | 2-5 |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 15.2 | 0.1 | 4.8 | 4.2 | 1-2 |
| <i>Festuca rubra ssp. rubra</i> | red fescue | L+ | Non-native | Graminoids | 16.2 | 0 | 0 | 0 | 0.1-1 |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 9.2 | 0 | 0 | 0 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 6 | 0 | 0 | 0 | |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 0.7 | 1.4 | 0 | 0 | |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0.8 | 0 | 0 | |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0 | 0.4 | 0.2 | 0 | |
| <i>Setaria pumila ssp. pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0.1 | 0.4 | 0 | 0 | |
| <i>Triticum aestivum</i> | wheat | L+ | Non-native | Graminoids | 0 | 0.2 | 0 | 0 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 12.6 | 15.2 | 2 | |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 2.3 | 8.4 | 14.4 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 6.6 | 3.6 | 4.9 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 0.8 | 2.1 | 10.2 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 4.6 | 6.2 | 0.9 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 8 | 2.9 | 0 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0.2 | 2.4 | 3.9 | |
| <i>Verbena hastata</i> | blue vervain | L5 | Native | Forbs | 0 | 0.6 | 1.6 | 2.4 | |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 0 | 0 | 1 | 1.8 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 2.2 | 0.1 | 0 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.2 | 0.6 | 1.4 | |
| <i>Symphytotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0.4 | 0 | 1.6 | |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | L4 | Native | Forbs | 0 | 0.1 | 0.3 | 1.4 | |
| <i>Acalypha rhomboidea</i> | three-seeded mercury | L5 | Native | Forbs | 0 | 1.1 | 0.3 | 0 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.6 | 0.6 | 0.2 | |
| <i>Silphium perfoliatum</i> | cup-plant | L+? | Native | Forbs | 0 | 0.2 | 0.1 | 0 | |
| <i>Solidago nemoralis ssp. nemoralis</i> | grey goldenrod | L5 | Native | Forbs | 0 | 0 | 0.3 | 0 | |
| <i>Asclepias tuberosa</i> | butterfly milkweed | LX | Native | Forbs | 0 | 0.1 | 0 | 0.1 | |
| <i>Careopsis tripteris</i> | tall tickseed | L+ | Native | Forbs | 0 | 0.1 | 0.1 | 0 | |
| <i>Symphytotrichum lanceolatum var. lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0 | 0 | 0 | 0.2 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0.1 | 0 | 0 | |
| <i>Symphytotrichum pilosum var. pilosum</i> | hairy aster | L3 | Native | Forbs | 0 | 0 | 0.1 | 0 | |
| <i>Verbena stricta</i> | hoary vervain | L3 | Native | Forbs | 0 | 0.1 | 0 | 0 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 21.8 | 8.8 | 12.6 | 9 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 0.5 | 22.2 | 10.2 | 8.2 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.4 | 24 | 1.6 | 0.9 | |
| <i>Pilosella caespitosa</i> | yellow hawkweed | L+ | Non-native | Forbs | 9 | 0 | 0 | 0 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 5.8 | 0 | 0 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0 | 0.2 | 2 | 3.4 | |
| <i>Stellaria graminea</i> | grass-leaved chickweed | L+ | Non-native | Forbs | 0 | 0.1 | 1.2 | 3.5 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0.1 | 1.4 | 0.4 | 1 | |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 0 | 0.3 | 1.4 | 1 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0.1 | 1.8 | 0.1 | 0.3 | |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 1.2 | 0.6 | 0.2 | |
| <i>Veronica serpyllifolia ssp. serpyllifolia</i> | thyme-leaved speedwell | L+ | Non-native | Forbs | 0 | 0.3 | 0.6 | 0.1 | |
| <i>Silene latifolia</i> | evening lychnis | L+ | Non-native | Forbs | 0 | 0.8 | 0 | 0.1 | |
| <i>Vicia tetrasperma</i> | slender vetch | L+ | Non-native | Forbs | 0 | 0.2 | 0.4 | 0.2 | |
| <i>Fallopia convolvulus</i> | black bindweed | L+ | Non-native | Forbs | 0 | 0.6 | 0 | 0.1 | |
| <i>Trifolium hybridum</i> | alsike clover | L+ | Non-native | Forbs | 0.6 | 0 | 0 | 0 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0 | 0.2 | 0.1 | 0 | |
| <i>Veronica arvensis</i> | corn speedwell | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.3 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.3 | 0 | 0 | 0 | |
| <i>Sanchus asper</i> | spiny sow-thistle | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0.2 | 0 | 0 | 0 | |
| <i>Amaranthus sp.</i> | pigweed sp. | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0.1 | 0 | 0 | 0 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | |
| <i>Ranunculus acris</i> | tall buttercup | L+ | Non-native | Forbs | 0.1 | 0 | 0 | 0 | |
| <i>Stellaria media</i> | common chickweed | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 1 | 0.2 | 0.1 | 0.5 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0.4 | 0 | 0 | 0 | |
| <i>Acer saccharum ssp. saccharum</i> | sugar maple | L5 | Native | Woody | 0 | 0.2 | 0 | 0 | |
| <i>Acer negundo</i> | Manitoba maple | L+? | Native | Woody | 0 | 0.1 | 0 | 0 | |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0.3 | 0 | 0 | 0 | |
| <i>Malus pumila</i> | apple | L+ | Non-native | Woody | 0.1 | 0 | 0 | 0 | |
| Thatch | Thatch | | | | 26 | 0 | 27 | 22 | |
| Bare soil | Bare soil | | | | 0.2 | 44.2 | 0 | 0.4 | |

Table 26. Plot 5.4AE percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2020 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|---------------------------------|--------|----------------------|-------------------|------|------|------|------|-----------------------|
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 0 | 0.6 | 0.5 | 80-100 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0.1 | 0 | 0.5 | 60-80 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0.6 | 0 | 0 | 40-60 |
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 0 | 0 | 0.1 | 20-40 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0 | 0 | 0.1 | 10-20 |
| <i>Poa pratensis ssp. pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 13.2 | 1.5 | 6.4 | 23 | 5-10 |
| <i>Festuca rubra ssp. rubra</i> | red fescue | L+ | Non-native | Graminoids | 29 | 0 | 0 | 0 | 2-5 |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 10.4 | 1.2 | 0 | 1-2 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 5.8 | 0 | 0 | 0 | 0.1-1 |
| <i>Triticum aestivum</i> | wheat | L+ | Non-native | Graminoids | 0 | 4.2 | 0 | 0 | 0 |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 3 | 0.1 | 0.1 | 0.1 | |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 2 | 0.1 | 0.2 | 0 | |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 1.8 | 0 | 0 | |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0 | 0.1 | 0.2 | 0.3 | |
| <i>Setaria pumila ssp. pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0.1 | 0.1 | 0 | 0 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 11.9 | 3.6 | 1.2 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 0.4 | 2.7 | 11.5 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0.4 | 3.5 | 4.8 | |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 0.8 | 0.9 | 2.8 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 3.4 | 0.2 | 0.3 | |
| <i>Verbena hastata</i> | blue vervain | L5 | Native | Forbs | 0 | 0.5 | 1.4 | 1 | |
| <i>Symphyotrichum pilosum var. pilosum</i> | hairy aster | L3 | Native | Forbs | 0 | 0 | 0.6 | 1.5 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 0.8 | 1.2 | 0 | |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0.2 | 0.7 | 1 | |
| <i>Symphyotrichum ericoides var. ericoides</i> | heath aster | L5 | Native | Forbs | 0 | 0.1 | 0.1 | 1.1 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0.1 | 0.7 | 0.4 | 0 | |
| <i>Verbena stricta</i> | hoary vervain | L3 | Native | Forbs | 0 | 0.4 | 0.3 | 0.3 | |
| <i>Plantago rugelii</i> | red-stemmed plantain | L5 | Native | Forbs | 0 | 0.8 | 0 | 0.1 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.1 | 0.2 | 0.1 | |
| <i>Epilobium ciliatum ssp. ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0.1 | 0.2 | 0.1 | |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | L4 | Native | Forbs | 0 | 0 | 0 | 0.4 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 0.2 | 0 | 0 | |
| <i>Symphyotrichum lanceolatum var. lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0 | 0 | 0.1 | 0.1 | |
| <i>Acalypha rhomboidea</i> | three-seeded mercury | L5 | Native | Forbs | 0 | 0.1 | 0 | 0 | |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | |
| <i>Senna hebecarpa</i> | wild senna | L+* | Native | Forbs | 0 | 0 | 0 | 0.1 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 14.2 | 18 | 29.4 | 23.4 | |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 0.3 | 0.8 | 53 | 29.6 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 0.2 | 11.2 | 23 | 2.8 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 5 | 5.2 | 0.5 | 0.3 | |
| <i>Convolvulus arvensis</i> | field bindweed | L+ | Non-native | Forbs | 0 | 6.8 | 1.4 | 2.1 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.6 | 4.3 | 1.3 | 1.1 | |
| <i>Lotus corniculatus</i> | bird's foot trefoil | L+ | Non-native | Forbs | 0 | 0 | 1.6 | 2.4 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0.2 | 1.8 | 1.4 | 0.1 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0 | 0.2 | 1.5 | 1.3 | |
| <i>Atriplex patula</i> | halberd-leaved orache | L+? | Non-native | Forbs | 0 | 2 | 0 | 0 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 1.6 | 0.1 | 0 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0 | 0 | 0.3 | 0.8 | |
| <i>Chenopodium bonus-henricus</i> | good King Henry | L+ | Non-native | Forbs | 0 | 1 | 0 | 0 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0.8 | 0.1 | 0.1 | |
| <i>Melilotus albus</i> | white sweet clover | L+ | Non-native | Forbs | 1 | 0 | 0 | 0 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0.4 | 0 | 0 | 0 | |
| <i>Polygonum aviculare ssp. aviculare</i> | prostrate knotweed | L+ | Non-native | Forbs | 0 | 0.3 | 0 | 0 | |
| <i>Medicago sativa ssp. sativa</i> | alfalfa | L+ | Non-native | Forbs | 0.2 | 0 | 0 | 0 | |
| <i>Sonchus arvensis ssp. arvensis</i> | glandular perennial sow-thistle | L+ | Non-native | Forbs | 0 | 0.1 | 0.1 | 0 | |
| <i>Sonchus arvensis ssp. uliginosus</i> | smooth perennial sow-thistle | L+ | Non-native | Forbs | 0.2 | 0 | 0 | 0 | |
| <i>Fallopia convolvulus</i> | black bindweed | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | |
| <i>Taraxacum erythrospermum</i> | red-seeded dandelion | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0 | 1.2 | 1.6 | 1.4 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 1.2 | 0 | 0 | 0 | |
| <i>Acer negundo</i> | Manitoba maple | L+?* | Native | Woody | 0 | 0 | 0.1 | 0 | |
| <i>Sambucus canadensis</i> | common elderberry | L5 | Native | Woody | 0 | 0.1 | 0 | 0 | |
| Thatch | Thatch | | | | 42 | 0 | 4.2 | 12.8 | |
| Bare soil | Bare soil | | | | 0.6 | 51.4 | 0 | 0.4 | |

Section 6

Section 6.1

Plot 6.1AF was monitored pre-restoration in 2020 and post-restoration from 2024-2025 (Table 27). Prior to restoration, the plot primarily consisted of Kentucky bluegrass (30.4%) and meadow fescue (43%). The cover of native grasses was high in both 2024 and 2025, including Virginia wild rye (13% in 2025) and Canada wild rye (*Elymus canadensis* var. *canadensis*; 10.5% in 2025). Kentucky bluegrass returned in 2025 at a cover of 25%. Native forbs with the highest cover in 2025 included tall goldenrod (20%), ox-eye (7%), and cup-plant (*Silphium perfoliatum* var. *perfoliatum*; 6.2%). The percent cover of creeping thistle and DSV were very low (0-5.6%).

Section 6.2

Section 6.2 was seeded in January 2024 and plot 6.2AG was monitored both pre-restoration in 2020 and post-restoration from 2024-2025. Before restoration, the plot was dominated by DSV (31%), Kentucky bluegrass (22.8%), and red fescue (25.6%) (Table 28). Following restoration, several native forbs and native grasses were establishing including Canada wild rye (3%), tall goldenrod (13.6%), ox-eye (7.4%), and black-eyed Susan (6.1%). The percent cover of creeping thistle and DSV were very low (0-1%).

Section 6.4

Plot 6.4AH was monitored pre-restoration in 2020 and post-restoration from 2024-2025. It has transitioned from being dominated by all non-native grasses and forbs, to high covers of native grasses and forbs including Canada wild rye (9.2%), Virginia wild rye (6%), ox-eye (30.6%), and black-eyed Susan (17.6%; Table 29). The percent cover of creeping thistle and DSV were very low (0-1.2%).

Table 27. Plot 6.1AF percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2020 | 2024 | 2025 | Average Percent Cover |
|---|-----------------------------|--------|----------------------|-------------------|------|------|------|-----------------------|
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 28.8 | 13 | 80-100 |
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 20 | 10.5 | 60-80 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0.8 | 0 | 40-60 |
| <i>Carex tenera</i> | straw sedge | L4 | Native | Graminoids | 0 | 0 | 0.2 | 20-40 |
| <i>Juncus bufonius</i> | toad rush | L5 | Native | Graminoids | 0 | 0.2 | 0 | 10-20 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0 | 0.1 | 5-10 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 30.4 | 0.2 | 25 | 2-5 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 48 | 0 | 0 | 1-2 |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 23.6 | 0 | 0.1-1 |
| <i>Agrostis stolonifera</i> | creeping bent grass | L+? | Non-native | Graminoids | 6 | 0 | 0 | 0 |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 0.2 | 3.2 | 0 | |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 2.2 | 0 | 0 | |
| <i>Carex spicata</i> | spiked sedge | L+ | Non-native | Graminoids | 0.6 | 0.4 | 0 | |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 0.4 | 0 | 0 | |
| grass sp. | grass sp. | | | Graminoids | 0 | 6 | 0 | |
| <i>Elymus</i> sp. | wild rye sp. | | | Graminoids | 0 | 2 | 0 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 11 | 20 | |
| <i>Silphium perfoliatum</i> | cup-plant | L+? | Native | Forbs | 0 | 16.8 | 6.2 | |
| <i>Helianthus scaberrimus</i> | ox-eye | L2 | Native | Forbs | 0 | 12.8 | 7 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 12.4 | 0 | |
| <i>Bidens frondosa</i> | common beggar's-ticks | L5 | Native | Forbs | 0 | 10 | 2 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 7.2 | 2 | |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 4.8 | 2.6 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 4.4 | 1.3 | |
| <i>Fragaria virginiana</i> ssp. <i>virginiana</i> | common wild strawberry | L5 | Native | Forbs | 4 | 0 | 0 | |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 3.2 | 0 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0.6 | 1.4 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 1.6 | 0.2 | |
| <i>Verbena stricta</i> | hoary vervain | L3 | Native | Forbs | 0 | 1.8 | 0 | |
| <i>Symphyotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0 | 0.4 | 1 | |
| <i>Oxalis stricta</i> | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 1 | 0.2 | |
| <i>Verbena hastata</i> | blue vervain | L5 | Native | Forbs | 0 | 0.2 | 1 | |
| <i>Euthamia graminifolia</i> | grass-leaved goldenrod | L5 | Native | Forbs | 0 | 0 | 1 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 0.8 | 0.1 | |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | L4 | Native | Forbs | 0 | 0.6 | 0.3 | |
| <i>Penstemon hirsutus</i> | hairy beard-tongue | L3 | Native | Forbs | 0 | 0.6 | 0.2 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.6 | 0 | |
| <i>Asclepias tuberosa</i> | butterfly milkweed | LX | Native | Forbs | 0 | 0.2 | 0.2 | |
| <i>Symphyotrichum laeve</i> var. <i>laeve</i> | smooth aster | L3 | Native | Forbs | 0 | 0.4 | 0 | |
| <i>Echinacea pallida</i> | pale purple coneflower | L+* | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Lepedeza capitata</i> | round-headed bush-clover | L3 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Prunella vulgaris</i> ssp. <i>lanceolata</i> | heal-all (native) | L5 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Symphyotrichum pilosum</i> var. <i>pilosum</i> | hairy aster | L3 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 1.2 | 15.8 | 9.6 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 4.4 | 15 | 4.2 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 13.2 | 5.2 | 4.4 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.7 | 2 | 2 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.5 | 1.8 | 1.2 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0 | 0.8 | 1.6 | |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 0 | 2 | 0.4 | |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 1.4 | 0 | 0 | |
| <i>Veronica serpyllifolia</i> ssp. <i>serpyllifolia</i> | thyme-leaved speedwell | L+ | Non-native | Forbs | 0.4 | 1 | 0 | |
| <i>Conringia orientalis</i> | hare's ear mustard | L+ | Non-native | Forbs | 0 | 1.2 | 0 | |
| <i>Fallopia convolvulus</i> | black bindweed | L+ | Non-native | Forbs | 0 | 0.4 | 0.4 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0.7 | 0 | 0 | |
| <i>Lysimachia nummularia</i> | moneywort | L+ | Non-native | Forbs | 0 | 0.6 | 0 | |
| <i>Silene latifolia</i> | evening lychnis | L+ | Non-native | Forbs | 0 | 0.6 | 0 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0 | 0.2 | 0.2 | |
| <i>Plantago major</i> | common plantain | L+ | Non-native | Forbs | 0 | 0.4 | 0 | |
| <i>Ranunculus repens</i> | creeping buttercup | L+ | Non-native | Forbs | 0 | 0.4 | 0 | |
| <i>Tussilago farfara</i> | coltsfoot | L+ | Non-native | Forbs | 0 | 0.4 | 0 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0.2 | 0 | |
| <i>Ranunculus acris</i> | tail buttercup | L+ | Non-native | Forbs | 0.1 | 0 | 0 | |
| <i>Sinapis arvensis</i> | charlock | L+ | Non-native | Forbs | 0 | 0 | 0.1 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0.2 | 5.6 | 2.8 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.4 | 0 | 0 | |
| <i>Acer negundo</i> | Manitoba maple | L+? | Native | Woody | 0 | 0.4 | 0 | |
| <i>Malus pumila</i> | apple | L+ | Non-native | Woody | 0 | 0.2 | 0 | |
| Bare soil | Bare soil | | | | 0 | 0.7 | 0 | |
| Thatch | Thatch | | | | 35 | 0 | 8.6 | |

Table 28. Plot 6.2AG percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2020 | 2024 | 2025 | Average Percent Cover |
|---|-----------------------------|--------|----------------------|-------------------|------|------|------|-----------------------|
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 3.6 | 3 | 80-100 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0.2 | 0 | 60-80 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0 | 0.1 | 40-60 |
| <i>Festuca rubra ssp. rubra</i> | red fescue | L+ | Non-native | Graminoids | 25.6 | 0 | 0 | 20-40 |
| <i>Poa pratensis ssp. pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 22.8 | 0 | 2.6 | 10-20 |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 12 | 0 | 5-10 |
| <i>Phleum pratense</i> | timothy grass | L+ | Non-native | Graminoids | 8.2 | 0 | 0 | 2-5 |
| <i>Bromus inermis</i> | smooth brome grass | L+ | Non-native | Graminoids | 4.4 | 0 | 0 | 1-2 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 4 | 0.2 | 0 | 0.1-1 |
| <i>Setaria pumila ssp. pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0.3 | 0.6 | 0 | 0 |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0.2 | 0.1 | |
| <i>Agrostis gigantea</i> | redtop | L+ | Non-native | Graminoids | 0 | 0 | 0.3 | |
| <i>Carex spicata</i> | spiked sedge | L+ | Non-native | Graminoids | 0.2 | 0 | 0 | |
| <i>grass sp.</i> | grass sp. | | | Graminoids | 0 | 6 | 0 | |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 62 | 3.1 | |
| <i>Heliothis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 14.4 | 7.4 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 2.2 | 13.6 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 6.4 | 6.1 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 6.8 | 4 | |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 10.4 | 0 | |
| <i>Verbena hastata</i> | blue vervain | L5 | Native | Forbs | 0 | 3.2 | 1.8 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 4.4 | 0.2 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 1.2 | 3.3 | |
| <i>Verbena stricta</i> | hoary vervain | L3 | Native | Forbs | 0 | 2.6 | 1.4 | |
| <i>Silphium perfoliatum</i> | cup-plant | L+? | Native | Forbs | 0 | 1.6 | 1.4 | |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | L4 | Native | Forbs | 0 | 1 | 0.3 | |
| <i>Penstemon hirsutus</i> | hairy beard-tongue | L3 | Native | Forbs | 0 | 0.8 | 0.1 | |
| <i>Symphotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0.6 | 0.3 | |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 0 | 0.6 | 0.1 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.6 | 0 | |
| <i>Lespedeza capitata</i> | round-headed bush-clover | L3 | Native | Forbs | 0 | 0.6 | 0 | |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0.4 | |
| <i>Asclepias tuberosa</i> | butterfly milkweed | LX | Native | Forbs | 0 | 0.2 | 0.1 | |
| <i>Ratibida pinnata</i> | grey-headed coneflower | L+* | Native | Forbs | 0 | 0.2 | 0.1 | |
| <i>Drymocallis arguta</i> | tall cinquefoil | L3 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Pycnanthemum virginianum</i> | Virginia mountain-mint | L3 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Solidago nemoralis ssp. nemoralis</i> | grey goldenrod | L5 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Symphotrichum laeve var. laeve</i> | smooth aster | L3 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Symphotrichum lanceolatum var. lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 3 | 26 | 38.6 | |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 0.6 | 38 | 10.4 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0 | 34.8 | 6.2 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 1.8 | 1.4 | 8.4 | |
| <i>Veronica arvensis</i> | corn speedwell | L+ | Non-native | Forbs | 0 | 7 | 1.4 | |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0.6 | 3.8 | 2 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 1.2 | 0 | 5.1 | |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0 | 1.4 | 3.4 | |
| <i>Vicia tetrasperma</i> | slender vetch | L+ | Non-native | Forbs | 1 | 2.2 | 0.6 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 2.6 | 0.6 | 0.3 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0 | 2.2 | 0.8 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 1.6 | 0 | |
| <i>Lotus corniculatus</i> | bird's foot trefoil | L+ | Non-native | Forbs | 0.4 | 0 | 0 | |
| <i>Securigera varia</i> | crown vetch | L+ | Non-native | Forbs | 0.4 | 0 | 0 | |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 0.4 | 0 | |
| <i>Barbarea vulgaris</i> | winter cress | L+ | Non-native | Forbs | 0 | 0 | 0.2 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0.2 | 0 | 0 | |
| <i>Polygonum aviculare ssp. aviculare</i> | prostrate knotweed | L+ | Non-native | Forbs | 0 | 0 | 0.1 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 31 | 0 | 0 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0.4 | 0.2 | 1 | |
| <i>Acer negundo</i> | Manitoba maple | L+? | Native | Woody | 0 | 0.2 | 0.1 | |
| <i>Vitis riparia</i> | riverbank grape | L5 | Native | Woody | 0 | 0.2 | 0.1 | |
| <i>Malus pumila</i> | apple | L+ | Non-native | Woody | 0 | 0.2 | 0 | |
| Thatch | Thatch | | | | 68 | 0 | 0 | |
| Bare soil | Bare soil | | | | 0 | 42 | 2 | |

Table 29. Plot 6.4AH percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2020 | 2024 | 2025 | Average Percent Cover |
|--|---------------------------------|--------|----------------------|-------------------|------|------|------|-----------------------|
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 8 | 9.2 | 80-100 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 0.8 | 6 | 60-80 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 5 | 0.8 | 40-60 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 2 | 0 | 20-40 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 1.2 | 0.2 | 10-20 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0.4 | 0.4 | 5-10 |
| <i>Lolium pratense</i> | meadow fescue | L+ | Non-native | Graminoids | 35 | 0 | 0 | 2-5 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 31 | 0 | 0 | 1-2 |
| <i>Avena sativa</i> | oats | L+ | Non-native | Graminoids | 0 | 22.4 | 0 | 0.1-1 |
| <i>Bromus inermis</i> | smooth brome grass | L+ | Non-native | Graminoids | 6 | 0 | 0 | 0 |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 4 | 0 | 0 | |
| <i>Carex spicata</i> | spiked sedge | L+ | Non-native | Graminoids | 0.8 | 0 | 0 | |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 0.4 | 0 | 0 | |
| <i>Digitaria ischaemum</i> | smooth crab grass | L+ | Non-native | Graminoids | 0 | 0.2 | 0 | |
| <i>Eragrostis minor</i> | little love grass | L+ | Non-native | Graminoids | 0 | 0.2 | 0 | |
| <i>Heliopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 27.6 | 30.6 | |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 12.4 | 17.6 | |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 7.2 | 5.6 | |
| <i>Desmodium canadense</i> | showy tick-trefoil | L5 | Native | Forbs | 0 | 2.4 | 0.4 | |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0.8 | 0.7 | |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.6 | 0.5 | |
| <i>Lepidium virginicum</i> | Virginia pepper-grass | L4 | Native | Forbs | 0 | 0.8 | 0.2 | |
| <i>Senna hebecarpa</i> | wild senna | L+* | Native | Forbs | 0 | 0.4 | 0.1 | |
| <i>Lespedeza capitata</i> | round-headed bush-clover | L3 | Native | Forbs | 0 | 0.2 | 0.1 | |
| <i>Asclepias incarnata</i> ssp. <i>incarnata</i> | swamp milkweed | L4 | Native | Forbs | 0 | 0.2 | 0 | |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0 | 0.1 | |
| <i>Silphium perfoliatum</i> | cup-plant | L+?* | Native | Forbs | 0 | 0 | 0.1 | |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 0 | 0.1 | |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0 | 0.1 | |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 25.6 | 0.8 | |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 6.6 | 13.6 | 5.9 | |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0 | 5.2 | 4.4 | |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0.6 | 1.4 | 1.8 | |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.1 | 1.4 | 1.2 | |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 1.3 | |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0.8 | 0 | 0 | |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 0.4 | 0.2 | |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0.5 | 0 | 0 | |
| <i>Lotus corniculatus</i> | bird's foot trefoil | L+ | Non-native | Forbs | 0.3 | 0 | 0 | |
| <i>Barbarea vulgaris</i> | winter cress | L+ | Non-native | Forbs | 0 | 0.2 | 0 | |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0.2 | 0 | |
| <i>Leucanthemum vulgare</i> | ox-eye daisy | L+ | Non-native | Forbs | 0 | 0.2 | 0 | |
| <i>Sonchus arvensis</i> ssp. <i>arvensis</i> | glandular perennial sow-thistle | L+ | Non-native | Forbs | 0 | 0.2 | 0 | |
| <i>Thlaspi arvense</i> | penny-cress | L+ | Non-native | Forbs | 0 | 0.2 | 0 | |
| <i>Polygonum achoreum</i> | striate knotweed | L+ | Non-native | Forbs | 0 | 0 | 0.1 | |
| <i>Tragopogon dubius</i> | lemon-yellow goat's beard | L+ | Non-native | Forbs | 0.1 | 0 | 0 | |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0 | 0 | 1.2 | |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.4 | 0.2 | 0.3 | |
| <i>Vitis riparia</i> | riverbank grape | L5 | Native | Woody | 0 | 0.2 | 0.1 | |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0 | 0.2 | 0 | |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0.1 | 0 | 0.1 | |
| Thatch | Thatch | | | | 69 | 4.8 | 19 | |
| Bare soil | Bare soil | | | | 0 | 84.2 | 4.4 | |

Section 7

Section 7.1

Section 7.1 was initially restored in 2016 and has been seeded repeatedly since that time. Three plots were monitored annually since 2016 (plots 7.1M, N, and O).

In 2016, plot 7.1M had low vegetation cover and low species richness (12 species). By 2025, species richness had increased substantially to 101 species, including many newly seeded native species (Table 30). Native grass cover remained low, ranging from 0 to 1.7% between 2018 and 2025. A variety of native forbs were observed post-seeding with tall goldenrod now dominating in 2025 (88% cover). Non-native forb cover was higher between 2018 and 2021 (e.g., reaching 12% for evening lychnis (*Silene latifolia*)) but has been lower since 2023 (<1%). The cover of targeted invasives was generally low, but the cover of DSV has risen from 2.8% in 2016 to 8.5% in 2025. Spotted knapweed (*Centaurea stoebe* ssp. *micranthos*) was not found in the plot in 2025.

Plot 7.1N initially supported relatively few species (25 species); however, by 2025 species richness had increased to 88 species, including many newly seeded native species (Table 31). Native grass cover was highest between 2021 and 2024 with the cover of copper savannah grass (*Sorghastrum nutans*) reaching 44% in 2023 and this is likely due to the dry, sandy conditions present in section 7 (and particularly near plot N). The cover of flat-stemmed blue grass (*Poa compressa*) and Kentucky blue grass were highest in 2022 and 2023. A variety of native forbs were observed post-seeding reaching the highest covers between 2018 and 2021; however, covers were generally lower in 2025 with the dominant species including black-eyed Susan (5%), tall goldenrod (3.4%), and daisy fleabane (*Erigeron annuus*; 3.2%). The percent cover of non-native forbs was highest between 2018 and 2019 (e.g. reaching 35% for ox-eye daisy (*Leucanthemum vulgare*)) but has been lower since 2023 (<2.9%). The cover of targeted invasives was very low in 2025 with zero cover of DSV and creeping thistle. Spotted knapweed was present at very low cover in 2025 (0.1%).

Plot 7.1O also began with low species richness (11 species) but increased to 88 species by 2025, including many newly seeded native species (Table 32). Native grass cover was high including panic grass in 2018 and 2019 (17-23%), and Virginia wild rye (3-9.2%). A variety of native forbs were observed post-seeding with tall goldenrod (28%) and ox-eye (12.4%) having the highest cover in 2025. The percent cover of non-native forbs was highest between 2018 and 2023 (e.g. reaching 34% for black medick) but were lower in 2025 (<2.4%). The cover of targeted invasives was fairly low with 3.7% cover of DSV and 1% cover of creeping thistle in 2025. There was no spotted knapweed in this plot; however, it has been found in the larger 20x20m plot every year since 2022.

Table 30. Plot 7.1M percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|---|---------------------------------|--------|----------------------|-------------------|-------|------|------|------|------|------|------|------|------|-----------------------|
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 1.1 | 1.3 | 1.7 | 1.5 | 0.8 | 0.3 | 0.1 | 0.1 | 80-100 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0.5 | 1.3 | 1 | 0.7 | 1.3 | 0.9 | 0.1 | 0 | 60-80 |
| <i>Carex tenera</i> var. <i>tenera</i> | straw sedge | L4 | Native | Graminoids | 0 | 0 | 1.2 | 2 | 1 | 1.4 | 0 | 0 | 0.1 | 40-60 |
| <i>Carex tenera</i> | straw sedge | L4 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0 | 1.4 | 0.1 | 0 | 20-40 |
| <i>Carex pellita</i> | woolly sedge | L4 | Native | Graminoids | 0 | 1.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10-20 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0 | 0 | 0.2 | 0.2 | 0.2 | 0 | 0 | 0 | 5-10 |
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2-5 |
| <i>Schizachyrium scoparium</i> | little bluestem | L2 | Native | Graminoids | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1-2 |
| <i>Juncus tenuis</i> | path rush | L5 | Native | Graminoids | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0.1-1 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0 | 0 | 1.8 | 2.4 | 2.8 | 4.6 | 3.2 | 11 | 2 | 0 |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0.1 | 0 | 0.4 | 0.4 | 0.4 | 1 | 6 | 6 | 0 |
| <i>Bromus japonicus</i> | Japanese chess | L+ | Non-native | Graminoids | 0 | 0 | 0.9 | 0.8 | 0.3 | 1.3 | 1.3 | 0 | 0.2 | 0 |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 0.7 | 0 | 0 | 2.8 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0 | 0 | 0.2 | 0.6 | 0.6 | 0.2 | 0.1 | 0 | 0 | 0 |
| <i>Phalaris arundinacea</i> | reed canary grass | L+? | Non-native | Graminoids | 0 | 0 | 0.2 | 0.4 | 0.4 | 0.2 | 0 | 0 | 0 | 0 |
| <i>Bromus inermis</i> | smooth brome grass | L+ | Non-native | Graminoids | 0.8 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 |
| <i>Phragmites australis</i> ssp. <i>australis</i> | common reed | L+ | Non-native | Graminoids | 0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Carex spicata</i> | spiked sedge | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| <i>Agrostis gigantea</i> | redtop | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Digitaria sanguinalis</i> | hairy crab grass | L+ | Non-native | Graminoids | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Setaria pumila</i> ssp. <i>pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 3.8 | 4.4 | 21.2 | 40.2 | 11.4 | 20.2 | 10.2 | 10.2 | 10.2 | 3.8 |
| <i>Symphyotrichum ericoides</i> var. <i>ericoides</i> | heath aster | L5 | Native | Forbs | 0.2 | 0.9 | 4 | 3 | 1.8 | 1.3 | 0.5 | 0.1 | 0.1 | 0.1 |
| <i>Ratibida pinnata</i> | grey-headed coneflower | L+* | Native | Forbs | 0 | 1 | 2.2 | 1.6 | 0.8 | 0.1 | 0 | 0 | 0.1 | 0 |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0.5 | 0.3 | 0.3 | 0.5 | 1 | 1.7 | 0.2 | 0.4 | 0 |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 0 | 2 | 0.6 | 0.9 | 0.4 | 0.6 | 0.1 | 0 | 0 | 0 |
| <i>Helopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 0.5 | 1 | 1.8 | 0.9 | 0 |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 0.9 | 0.4 | 0.8 | 0.3 | 1.2 | 0.5 | 0.1 | 0.2 | 0 |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 2.2 | 0.8 | 0.1 | 0.1 | 0.5 | 0 | 0 | 0 | 0 |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 2.2 | 0.5 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0.1 | 0.7 | 1.1 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Solanum ptychanthum</i> | American black nightshade | L5 | Native | Forbs | 0 | 1.2 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Chenopodium simplex</i> | maple-leaved goosefoot | L5 | Native | Forbs | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Symphyotrichum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0.1 | 0.6 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Solidago canadensis</i> var. <i>canadensis</i> | Canada goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 0.8 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.6 | 0 | 0.1 | 0 |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 0.1 | 0.4 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 0 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Chenopodium simplex</i> | maple-leaved goosefoot | L5 | Native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Potentilla norvegica</i> | rough cinquefoil | L+? | Native | Forbs | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Echinacea pallida</i> | pale purple coneflower | L+* | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Achillea borealis</i> var. <i>borealis</i> | woolly yarrow | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | sticky willow-herb | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Galium aparine</i> | cleavers | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| <i>Persicaria lapathifolia</i> | pale smartweed | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Symphyotrichum lanceolatum</i> var. <i>lanceolatum</i> | panicked aster | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Silene latifolia</i> | evening lychnis | L+ | Non-native | Forbs | 0 | 5.5 | 12.2 | 8.9 | 4.5 | 3.3 | 1 | 0.2 | 0.2 | 0 |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.5 | 4.8 | 7.8 | 2.2 | 1.4 | 1 | 0.5 | 0.2 | 0.6 | 0 |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0 | 1.6 | 3.6 | 5.5 | 0.8 | 0.4 | 0.2 | 0.1 | 0.1 | 0 |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 7.8 | 1.6 | 0 | 0 | 0.1 | 0.7 | 0 | 0 | 0 |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 6.4 | 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Lactuca scariola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 2.5 | 3.8 | 0.1 | 0.1 | 0 | 0.4 | 0 | 0 | 0 |
| <i>Polygonum achoreum</i> | striate knotweed | L+ | Non-native | Forbs | 0 | 6.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0 | 2.2 | 1.8 | 0.5 | 0.3 | 0.5 | 0.2 | 0.4 | 0.2 | 0 |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 0.2 | 0.9 | 1 | 1.4 | 0.9 | 1.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0 | 1.1 | 1.4 | 1.8 | 0.2 | 0.1 | 0.1 | 0.1 | 0 | 0 |
| <i>Lepidium campestre</i> | field pepper-grass | L+ | Non-native | Forbs | 0 | 2 | 1.6 | 0.1 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 |
| <i>Silene vulgaris</i> | bladder campion | L+ | Non-native | Forbs | 0 | 0.6 | 0.8 | 1.2 | 0.2 | 1 | 0.1 | 0 | 0 | 0 |
| <i>Amaranthus albus</i> | tumbleweed | L+ | Non-native | Forbs | 0 | 3.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Convolvulus arvensis</i> | field bindweed | L+ | Non-native | Forbs | 0.6 | 0 | 0.1 | 0.2 | 0.3 | 1.1 | 0.5 | 0.4 | 0.3 | 0 |
| <i>Nepeta cataria</i> | catnip | L+ | Non-native | Forbs | 0 | 0.8 | 1.4 | 0 | 0 | 0.1 | 0.4 | 0.2 | 0.1 | 0 |
| <i>Mellilotus albus</i> | white sweet clover | L+ | Non-native | Forbs | 0 | 0.8 | 2.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Vicia tetrasperma</i> | slender vetch | L+ | Non-native | Forbs | 0 | 0.2 | 1.2 | 0 | 0 | 0.3 | 0.2 | 0.4 | 0.7 | 0 |
| <i>Thlaspi arvense</i> | penny-cress | L+ | Non-native | Forbs | 0 | 1.6 | 0.5 | 0 | 0.1 | 0.3 | 0.1 | 0 | 0 | 0 |
| <i>Fallopia convolvulus</i> | black bindweed | L+ | Non-native | Forbs | 0 | 0.8 | 1.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Veronica arvensis</i> | corn speedwell | L+ | Non-native | Forbs | 0 | 0.3 | 0.2 | 0.1 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 0 |
| <i>Amaranthus retroflexus</i> | red-root pigweed | L+ | Non-native | Forbs | 0 | 1.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Potentilla recta</i> | sulphur cinquefoil | L+ | Non-native | Forbs | 0 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 | 0 | 0.1 | 0.2 | 0 |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0 | 0.3 | 0.5 | 0 | 0 | 0.2 | 0 | 0.1 | 0 | 0 |
| <i>Sisymbrium altissimum</i> | tumble mustard | L+ | Non-native | Forbs | 0 | 0.3 | 0.6 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Camelina microcarpa</i> | small-seeded false flax | L+ | Non-native | Forbs | 0 | 0.4 | 0.2 | 0 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 0 | 0.1 | 0.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Santhus asper</i> | spiny sow-thistle | L+ | Non-native | Forbs | 0 | 0.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Vicia sativa</i> var. <i>angustifolia</i> | common vetch | L+ | Non-native | Forbs | 0 | 0.4 | 0.2 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Taraxacum erythrospermum</i> | red-seeded dandelion | L+ | Non-native | Forbs | 0 | 0.4 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Rumex obtusifolius</i> | bitter dock | L+ | Non-native | Forbs | 0 | 0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Arenaria serpyllifolia</i> | thyme-leaved sandwort | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 | 0 | 0 | 0 |
| <i>Erysimum cheiranthoides</i> | wormseed mustard | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0.1 | 0.2 | 0 | 0 | 0 |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0.1 | 0 | 0 | 0.1 | 0 | 0 | 0 |
| <i>Rumex crispus</i> | curly dock | L+ | Non-native | Forbs | 0 | 0 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Barbarea vulgaris</i> | winter cress | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 |
| <i>Santhus arvensis</i> ssp. <i>arvensis</i> | glandular perennial sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Trifolium hybridum</i> | alsike clover | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Alliaria petiolata</i> | garlic mustard | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Coreopsis grandiflora</i> | large-flowered tickseed | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 2.8 | 2.5 | 5.5 | 4.2 | 5 | 8.2 | 6.2 | 7.1 | 8.5 | 0 |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0.3 | 0.9 | 1.4 | 1.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0 |
| <i>Centaurea stoebe</i> ssp. <i>micranthos</i> | spotted knapweed | L+ | Non-native | Targeted Invasive | 0 | 0 | 0.1 | 0.1 | 0 | 0.1 | 0.4 | 0.1 | 0 | 0 |
| <i>Toxicodendron radicans</i> var. <i>rydbergii</i> | poison ivy (shrub form) | L5 | Native | Woody | 2.9 | 0.6 | 0 | 0.3 | 0.1 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Vitis riparia</i> | riverbank grape | L5 | Native | Woody | 0 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0 |
| <i>Cornus stolonifera</i> | red osier dogwood | L5 | Native | Woody | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Sambucus canadensis</i> | common elderberry | L5 | Native | Woody | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Acer negundo</i> | Manitoba maple | L+? | Native | Woody | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Celastrus scandens</i> | American bittersweet | L3 | Native | Woody | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Cornus alternifolia</i> | alternate-leaved dogwood | L5 | Native | Woody | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Rhus typhina</i> | staghorn sumach | L5 | Native | Woody | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Morus alba</i> | white mulberry | L+ | Non-native | Woody | 0 | 0.3 | 0.1 | 0.1 | 0 | 0.1 | 0 | 0.1 | 0 | 0 |
| <i>Lonicera morrowii</i> | Morrow's honeysuckle | L+ | Non-native | Woody | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Thatch | Thatch | | | | 8.4 | 7 | 2 | 26.4 | 22.6 | 17.4 | 51 | 48 | 7 | 7 |
| Bare soil | Bare soil | | | | 0 | 8.4 | 0 | 1.8 | 2.2 | 2 | 5.4 | 8 | 3.6 | 0 |

*Only summer survey completed

Table 31. Plot 7.1N percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|---|-----------------------------|--------|----------------------|-------------------|-------|------|------|------|------|------|------|------|------|-------------------------------|
| Sorghastrum nutans | copper savannah grass | L2 | Native | Graminoids | 0 | 2.1 | 3.6 | 6.8 | 20.2 | 32.8 | 44 | 21.2 | 12 | 80-100 |
| Panicum virgatum | switch grass | L3 | Native | Graminoids | 0 | 0 | 0.8 | 2.2 | 4.5 | 6.8 | 6.2 | 3.1 | 0.4 | 60-80 |
| Dichanthelium implicatum | hairy panic grass | L4 | Native | Graminoids | 0 | 0 | 0 | 3.4 | 5 | 2.4 | 0.4 | 0.1 | 0 | 40-60 |
| Carex granularis | meadow sedge | L5 | Native | Graminoids | 0 | 0 | 0.5 | 0.5 | 0.6 | 1.6 | 0.5 | 0.5 | 0.4 | 20-40 |
| Andropogon gerardii | big bluestem | L3 | Native | Graminoids | 0 | 0.1 | 0 | 0.3 | 0.1 | 0.6 | 1 | 0.4 | 0.1 | 10-20 |
| Panicum capillare | panic grass | L5 | Native | Graminoids | 0 | 1.2 | 0.2 | 0.1 | 0.2 | 0.4 | 0.4 | 0 | 0.1 | 5-10 |
| Dichanthelium acuminatum ssp. acuminatum | hairy panic grass | L4 | Native | Graminoids | 0 | 0.6 | 1.6 | 0 | 0 | 0 | 0 | 0 | 0 | 2-5 |
| Elymus virginicus var. virginicus | Virginia wild rye | L5 | Native | Graminoids | 0 | 0.2 | 0.1 | 0 | 0 | 0.1 | 0 | 0 | 0.4 | 1-2 |
| Schizachyrium scoparium | little bluestem | L2 | Native | Graminoids | 0 | 0 | 0 | 0 | 0.5 | 0 | 0.2 | 0 | 0 | 0.1-1 |
| Danthonia spicata | poverty oat grass | L4 | Native | Graminoids | 0.1 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Carex aurea | golden-fruited sedge | L4 | Native | Graminoids | 0 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| Poa compressa | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0.7 | 0.8 | 1.1 | 3.4 | 4 | 8 | 4.2 | 2.8 | 4.6 | *Only summer survey completed |
| Poa pratensis ssp. pratensis | Kentucky blue grass | L+ | Non-native | Graminoids | 0.1 | 0 | 0 | 0 | 0 | 0.4 | 3.2 | 0 | 0 | |
| Setaria pumila ssp. pumila | yellow foxtail | L+ | Non-native | Graminoids | 0 | 0.3 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Agrostis gigantea | redtop | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | |
| Bromus japonicus | Japanese chess | L+ | Non-native | Graminoids | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Carex spicata | spiked sedge | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Eragrostis minor | little love grass | L+ | Non-native | Graminoids | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Solidago altissima | tall goldenrod | L5 | Native | Forbs | 1.1 | 4 | 6.2 | 10.7 | 10 | 5.4 | 4.7 | 3.8 | 3.4 | |
| Symphotrichum ericoides var. ericoides | heath aster | L5 | Native | Forbs | 0.7 | 1.9 | 5.2 | 9.4 | 6.7 | 4.6 | 3.6 | 2.7 | 1.2 | |
| Erigeron annuus | daisy fleabane | L5 | Native | Forbs | 0.2 | 11 | 10.2 | 0.5 | 0.3 | 1 | 1.1 | 5 | 3.2 | |
| Solidago nemoralis ssp. nemoralis | grey goldenrod | L5 | Native | Forbs | 0.3 | 0.2 | 4.8 | 10.6 | 5.3 | 1.8 | 1.7 | 0.2 | 0.1 | |
| Ratibida pinnata | grey-headed coneflower | L+* | Native | Forbs | 0 | 0.4 | 1.6 | 3 | 2.6 | 3.4 | 5 | 2 | 1.6 | |
| Rudbeckia hirta | black-eyed Susan | L4 | Native | Forbs | 0 | 0.5 | 0.5 | 1.1 | 0.7 | 2.4 | 4 | 4.7 | 5 | |
| Monarda fistulosa | wild bergamot | L5 | Native | Forbs | 0 | 0.2 | 0.3 | 0.6 | 3.2 | 1.9 | 2.5 | 2.1 | 1.9 | |
| Euthamia graminifolia | grass-leaved goldenrod | L5 | Native | Forbs | 0 | 0.6 | 1.3 | 1.3 | 1 | 0.9 | 0.8 | 0.6 | 0.2 | |
| Helianthus giganteus | tall sunflower | L3 | Native | Forbs | 0 | 0.5 | 1.4 | 1 | 0.2 | 0 | 0.1 | 0 | 0 | |
| Symphotrichum pilosum var. pilosum | hairy aster | L3 | Native | Forbs | 0 | 0.4 | 1.2 | 1 | 0.2 | 0 | 0.1 | 0 | 0 | |
| Oenothera biennis | common evening-primrose | L5 | Native | Forbs | 0 | 0.8 | 1.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0 | |
| Syrinchium montanum | blue-eyed grass | L4 | Native | Forbs | 0 | 0.2 | 0.4 | 1 | 0.6 | 0.2 | 0.1 | 0 | 0 | |
| Coreopsis lanceolata | lance-leaved coreopsis | L+* | Native | Forbs | 0 | 0 | 0.4 | 0.6 | 0 | 0 | 0 | 0.4 | 0.1 | |
| Oxalis dillenii | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0.3 | 0.5 | 0.3 | 0.2 | 0.1 | |
| Echinacea pallida | pale purple coneflower | L+* | Native | Forbs | 0 | 0 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0 | 0 | |
| Helopsis helianthoides | ox-eye | L2 | Native | Forbs | 0 | 0.3 | 0.3 | 0.2 | 0 | 0 | 0 | 0 | 0 | |
| Solidago canadensis var. canadensis | Canada goldenrod | L5 | Native | Forbs | 0 | 0 | 0 | 0.6 | 0 | 0 | 0 | 0 | 0 | |
| Symphotrichum lanceolatum var. lanceolatum | panicked aster | L5 | Native | Forbs | 0.1 | 0.1 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| Erigeron canadensis | horse-weed | L5 | Native | Forbs | 0 | 0.3 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Potentilla norvegica | rough cinquefoil | L+? | Native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0.1 | 0 | 0.2 | |
| Achillea borealis var. borealis | woolly yarrow | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0.1 | 0.1 | |
| Achillea millefolium ssp. lanulosa | woolly yarrow | L5 | Native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | |
| Erigeron philadelphicus var. philadelphicus | Philadelphia fleabane | L5 | Native | Forbs | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Ambrosia artemisiifolia | common ragweed | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| Antennaria howellii ssp. howellii | Howell's pussytoes | L5 | Native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Asclepias incarnata ssp. incarnata | swamp milkweed | L4 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | |
| Oxalis stricta | common yellow wood-sorrel | L5 | Native | Forbs | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Solanum ptychanthum | American black nightshade | L5 | Native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Leucanthemum vulgare | ox-eye daisy | L+ | Non-native | Forbs | 0.3 | 20 | 35 | 2.1 | 0.8 | 1.7 | 2.9 | 2.4 | 1.2 | |
| Daucus carota | Queen Anne's lace | L+ | Non-native | Forbs | 0.5 | 25.8 | 11 | 0.4 | 0.2 | 0.4 | 0.8 | 0.4 | 0.3 | |
| Plantago lanceolata | English plantain | L+ | Non-native | Forbs | 0.1 | 3 | 3.6 | 3 | 1.6 | 2.2 | 0.6 | 0.2 | 0.8 | |
| Hypericum perforatum | common St. John's-wort | L+ | Non-native | Forbs | 0.1 | 3 | 4.1 | 0.2 | 0.3 | 0.4 | 0.6 | 0.9 | 2.4 | |
| Potentilla recta | sulphur cinquefoil | L+ | Non-native | Forbs | 0.1 | 0.7 | 0.6 | 1.4 | 1.4 | 1.8 | 0.8 | 0.5 | 1 | |
| Medicago lupulina | black medick | L+ | Non-native | Forbs | 0.5 | 2 | 3.1 | 0.2 | 0.1 | 0.6 | 0.9 | 0.4 | 0.1 | |
| Cerastium fontanum | mouse-ear chickweed | L+ | Non-native | Forbs | 0 | 0.5 | 0.5 | 1.5 | 0.2 | 0.2 | 0.4 | 0.4 | 0.8 | |
| Coreopsis grandiflora | large-flowered tickseed | L+ | Non-native | Forbs | 0 | 0.5 | 0.2 | 1.4 | 0.7 | 0.8 | 0.5 | 0 | 0 | |
| Silene vulgaris | bladder campion | L+ | Non-native | Forbs | 0 | 0.2 | 0.4 | 0.6 | 0.1 | 0 | 0.6 | 0 | 0 | |
| Verbascum thapsus | common mullein | L+ | Non-native | Forbs | 0 | 1.2 | 0.6 | 0 | 0 | 0 | 0 | 0.1 | 0 | |
| Taraxacum officinale | dandelion | L+ | Non-native | Forbs | 0.7 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0 | 0 | 0.2 | |
| Arabis thaliana | mouse-ear cress | L+ | Non-native | Forbs | 0 | 0.3 | 0 | 0 | 0.5 | 0.4 | 0 | 0 | 0 | |
| Trifolium pratense | red clover | L+ | Non-native | Forbs | 0 | 0.3 | 0.4 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| Arenaria serpyllifolia | thyme-leaved sandwort | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0 | 0 | |
| Cardamine hirsuta | hairy bitter cress | L+ | Non-native | Forbs | 0 | 0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Tragopogon pratensis | meadow goat's beard | L+ | Non-native | Forbs | 0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Mellilotus albus | white sweet clover | L+ | Non-native | Forbs | 0 | 0.3 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Pilosella caespitosa | yellow hawkweed | L+ | Non-native | Forbs | 0.3 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | |
| Veronica anvensis | corn speedwell | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 0 | |
| Cirsium vulgare | bull thistle | L+ | Non-native | Forbs | 0 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Amaranthus retroflexus | red-root pigweed | L+ | Non-native | Forbs | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Barbarea vulgaris | winter cress | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | |
| Linaria vulgaris | butter-and-eggs | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0.1 | 0 | |
| Tanacetum vulgare | tansy | L+ | Non-native | Forbs | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Trifolium hybridum | alsike clover | L+ | Non-native | Forbs | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Asparagus officinalis | asparagus | L+ | Non-native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Plantago major | common plantain | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | |
| Polygonum aviculare ssp. aviculare | prostrate knotweed | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | |
| Stellaria graminea | grass-leaved chickweed | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Stellaria media | common chickweed | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | |
| Centaurea stoebe ssp. micranthos | spotted knapweed | L+ | Non-native | Targeted Invasive | 0.2 | 0.6 | 0.7 | 3 | 1.8 | 0.2 | 0.3 | 0.2 | 0.1 | |
| Cynanchum rossicum | dog-strangling vine | L+ | Non-native | Targeted Invasive | 1 | 0.3 | 0 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 | |
| Cirsium arvense | creeping thistle | L+ | Non-native | Targeted Invasive | 0 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Acer negundo | Manitoba maple | L+? | Native | Woody | 0 | 0.3 | 0.2 | 0.1 | 0 | 0.1 | 0.1 | 0 | 0 | |
| Cornus stolonifera | red osier dogwood | L5 | Native | Woody | 0 | 0.3 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Prunus virginiana var. virginiana | choke cherry | L5 | Native | Woody | 0.2 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| Rhus typhina | staghorn sumach | L5 | Native | Woody | 0 | 0.1 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Vitis riparia | riverbank grape | L5 | Native | Woody | 0 | 0 | 0.1 | 0.1 | 0 | 0.1 | 0 | 0 | 0 | |
| Juniperus virginiana | red cedar | L5 | Native | Woody | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Parthenocissus vitacea | thicket creeper | L5 | Native | Woody | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | |
| Ailanthus altissima | tree-of-heaven | L+ | Non-native | Woody | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Robinia pseudoacacia | black locust | L+ | Non-native | Woody | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Thatch | Thatch | | | | 59.0 | 0 | 0.6 | 3.7 | 16.2 | 13.8 | 44 | 35 | 66 | |
| Bare soil | Bare soil | | | | 16.8 | 29 | 3.2 | 23.4 | 11.6 | 12.8 | 7.4 | 3.8 | 0.2 | |

Table 32. Plot 7.10 percent cover by species

| Species | Common Name | L-rank | Native or Non-native | Plant Type | 2016* | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Average Percent Cover |
|--|-----------------------------|--------|----------------------|-------------------|-------|------|------|------|------|------|------|------|------|-----------------------|
| <i>Panicum capillare</i> | panic grass | L5 | Native | Graminoids | 0 | 16.6 | 23.4 | 0.4 | 0 | 0 | 0 | 0 | 0 | 80-100 |
| <i>Elymus virginicus</i> var. <i>virginicus</i> | Virginia wild rye | L5 | Native | Graminoids | 0 | 0 | 0 | 3.4 | 9 | 8.7 | 8.2 | 9.2 | 1.2 | 60-80 |
| <i>Andropogon gerardii</i> | big bluestem | L3 | Native | Graminoids | 0 | 0 | 0 | 0.1 | 0 | 0.2 | 0.8 | 0.1 | 0 | 40-60 |
| <i>Elymus villosus</i> | hairy wild rye | L2 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.6 | 0 | 0 | 0 | 20-40 |
| <i>Panicum virgatum</i> | switch grass | L3 | Native | Graminoids | 0 | 0.5 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 10-20 |
| <i>Elymus canadensis</i> | Canada wild rye | L4 | Native | Graminoids | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 5-10 |
| <i>Sorghastrum nutans</i> | copper savannah grass | L2 | Native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 2-5 |
| <i>Poa pratensis</i> ssp. <i>pratensis</i> | Kentucky blue grass | L+ | Non-native | Graminoids | 0.3 | 0 | 0 | 0.5 | 14 | 20 | 22.2 | 34 | 11.8 | 1-2 |
| <i>Elymus repens</i> | quack grass | L+ | Non-native | Graminoids | 0 | 0.1 | 0.1 | 1 | 1 | 4 | 16 | 2.6 | 0.8 | 0.1-1 |
| <i>Festuca rubra</i> ssp. <i>rubra</i> | red fescue | L+ | Non-native | Graminoids | 11.2 | 0 | 0 | 0.2 | 1.4 | 0 | 0 | 0 | 0 | 0 |
| <i>Setaria pumila</i> ssp. <i>pumila</i> | yellow foxtail | L+ | Non-native | Graminoids | 0 | 3.1 | 4.2 | 1.4 | 0.2 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Schedonorus pratensis</i> | meadow fescue | L+ | Non-native | Graminoids | 1.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Elymus</i> sp. | wild rye sp. | | | Graminoids | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Poa compressa</i> | flat-stemmed blue grass | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0.1 | 0.3 | 0.2 | 1 | 0 | 0 |
| <i>Dactylis glomerata</i> | orchard grass | L+ | Non-native | Graminoids | 0.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Bromus japonicus</i> | Japanese chess | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 | 0 | 0 |
| <i>Bromus tectorum</i> | downy chess | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 |
| <i>Setaria viridis</i> | green foxtail | L+ | Non-native | Graminoids | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Setaria verticillata</i> | bristly foxtail | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Triticum aestivum</i> | wheat | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Secale cereale</i> | rye | L+ | Non-native | Graminoids | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Setaria faberi</i> | giant foxtail | L+ | Non-native | Graminoids | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Solidago altissima</i> | tall goldenrod | L5 | Native | Forbs | 0 | 1.6 | 0 | 0.2 | 1 | 3.6 | 6 | 20.6 | 28 | 28 |
| <i>Helopsis helianthoides</i> | ox-eye | L2 | Native | Forbs | 0 | 4.6 | 0.1 | 0.5 | 1.4 | 3.5 | 7.2 | 12.2 | 12.4 | 12.4 |
| <i>Helianthus giganteus</i> | tall sunflower | LX | Native | Forbs | 0 | 12.4 | 0.2 | 1.3 | 1.3 | 2.4 | 0.8 | 0.8 | 0.5 | 0.5 |
| <i>Oxalis dillenii</i> | deflexed yellow wood-sorrel | L5 | Native | Forbs | 0 | 2.6 | 0 | 6 | 1.2 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Ambrosia artemisiifolia</i> | common ragweed | L5 | Native | Forbs | 0 | 0 | 0.1 | 4 | 1.2 | 0.4 | 0 | 0 | 0 | 0 |
| <i>Erigeron annuus</i> | daisy fleabane | L5 | Native | Forbs | 0 | 0 | 0 | 0.1 | 1.3 | 2.3 | 1 | 0.2 | 0 | 0 |
| <i>Erigeron canadensis</i> | horse-weed | L5 | Native | Forbs | 0 | 0 | 0 | 1.4 | 2.9 | 0.5 | 0 | 0 | 0 | 0 |
| <i>Symphoricarum laeve</i> var. <i>laeve</i> | smooth aster | L3 | Native | Forbs | 0 | 0 | 0 | 0 | 0.4 | 1 | 2.2 | 0.1 | 0.1 | 0.1 |
| <i>Rudbeckia hirta</i> | black-eyed Susan | L4 | Native | Forbs | 0 | 1.2 | 0 | 0.6 | 0.6 | 0.1 | 0.3 | 0.1 | 0.2 | 0.2 |
| <i>Solanum elaeagnifolium</i> | American black nightshade | L5 | Native | Forbs | 0 | 2.4 | 0.2 | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Oenothera biennis</i> | common evening-primrose | L5 | Native | Forbs | 0 | 1.4 | 0.4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Veronica peregrina</i> ssp. <i>peregrina</i> | purslane speedwell | L+? | Native | Forbs | 0 | 0.2 | 0 | 1.6 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Ratibida pinnata</i> | grey-headed coneflower | L+? | Native | Forbs | 0 | 1.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Symphoricarum novae-angliae</i> | New England aster | L5 | Native | Forbs | 0 | 0.8 | 0 | 0 | 0 | 0.1 | 0 | 0.2 | 0 | 0 |
| <i>Potentilla norvegica</i> | rough cinquefoil | L+? | Native | Forbs | 0 | 0 | 0 | 0.2 | 0.2 | 0.2 | 0 | 0 | 0 | 0 |
| <i>Symphoricarum ericoides</i> var. <i>ericoides</i> | heath aster | L5 | Native | Forbs | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Asclepias syriaca</i> | common milkweed | L5 | Native | Forbs | 0 | 0.2 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Symphoricarum lanceolatum</i> var. <i>lanceolatum</i> | panicled aster | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 |
| <i>Monarda fistulosa</i> | wild bergamot | L5 | Native | Forbs | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 |
| <i>Solidago ptarmicoides</i> | upland white goldenrod | L2 | Native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Medicago lupulina</i> | black medick | L+ | Non-native | Forbs | 0 | 1.4 | 0.6 | 31.8 | 24 | 7.6 | 0.5 | 0 | 0 | 0 |
| <i>Berteroa incana</i> | hoary alyssum | L+ | Non-native | Forbs | 0 | 0 | 0 | 4.6 | 12 | 11 | 0.8 | 0 | 0 | 0 |
| <i>Chenopodium album</i> | lamb's quarters | L+ | Non-native | Forbs | 0 | 3.6 | 8.9 | 12 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Sisymbrium altissimum</i> | tumble mustard | L+ | Non-native | Forbs | 0 | 0 | 0 | 17 | 3.8 | 1.4 | 0 | 0 | 0 | 0 |
| <i>Linaria vulgaris</i> | butter-and-eggs | L+ | Non-native | Forbs | 0 | 1.2 | 0 | 0.4 | 4.4 | 4.4 | 4.2 | 3.4 | 0.5 | 0.5 |
| <i>Taraxacum officinale</i> | dandelion | L+ | Non-native | Forbs | 2.3 | 3.6 | 0.1 | 0.5 | 0.8 | 3.2 | 1.8 | 2.8 | 2.4 | 2.4 |
| <i>Lactuca serriola</i> | prickly lettuce | L+ | Non-native | Forbs | 0 | 0 | 0 | 1 | 7.6 | 4.2 | 0.4 | 0 | 0 | 0 |
| <i>Vicia cracca</i> | cow vetch | L+ | Non-native | Forbs | 0.4 | 3.8 | 0.2 | 1 | 0.2 | 0.6 | 0.6 | 2.2 | 1.1 | 1.1 |
| <i>Daucus carota</i> | Queen Anne's lace | L+ | Non-native | Forbs | 0 | 4.2 | 0 | 2 | 1 | 0.8 | 0.4 | 0.1 | 0 | 0 |
| <i>Cerastium fontanum</i> | mouse-ear chickweed | L+ | Non-native | Forbs | 0 | 0.4 | 0 | 0.9 | 1.5 | 2.7 | 0.3 | 0.1 | 0 | 0 |
| <i>Arabisopsis thaliana</i> | mouse-ear cress | L+ | Non-native | Forbs | 0 | 0 | 0 | 3.6 | 1.5 | 0 | 0 | 0 | 0 | 0 |
| <i>Thlaspi arvense</i> | penny-cress | L+ | Non-native | Forbs | 0 | 0 | 0 | 1.7 | 1.4 | 1.4 | 0 | 0 | 0 | 0 |
| <i>Silene latifolia</i> | evening lychnis | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 1.7 | 1 | 0.5 | 0.1 | 0.1 |
| <i>Plantago lanceolata</i> | English plantain | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.2 | 1 | 1.4 | 0.3 | 0.1 | 0.1 | 0.1 |
| <i>Amaranthus blitoides</i> | prostrate pigweed | L+ | Non-native | Forbs | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Amaranthus retroflexus</i> | red-root pigweed | L+ | Non-native | Forbs | 0 | 0 | 2.4 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Tragopogon pratensis</i> | meadow goat's beard | L+ | Non-native | Forbs | 0.2 | 0.9 | 0 | 0.1 | 0.4 | 0.1 | 0.6 | 0 | 0.2 | 0.2 |
| <i>Barbarea vulgaris</i> | winter cress | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.4 | 1.2 | 0.8 | 0 | 0 | 0 | 0 |
| <i>Amaranthus albus</i> | tumbleweed | L+ | Non-native | Forbs | 0 | 0 | 2.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Malva neglecta</i> | common mallow | L+ | Non-native | Forbs | 0 | 0.4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Polygonum achoreum</i> | striate knotweed | L+ | Non-native | Forbs | 0 | 2.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Verbascum thapsus</i> | common mullein | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.2 | 1.4 | 0.4 | 0 | 0 | 0 | 0 |
| <i>Trifolium pratense</i> | red clover | L+ | Non-native | Forbs | 0.2 | 0 | 0 | 0.1 | 1.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Capsella bursa-pastoris</i> | shepherd's purse | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.6 | 0.6 | 0.2 | 0 | 0 | 0 | 0 |
| <i>Arenaria serpyllifolia</i> | thyme-leaved sandwort | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0.1 | 0.4 | 0 | 0 | 0 | 0 |
| <i>Cardamine hirsuta</i> | hairy bitter cress | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Cirsium vulgare</i> | bull thistle | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 |
| <i>Veronica arvensis</i> | corn speedwell | L+ | Non-native | Forbs | 0 | 0 | 0.1 | 0 | 0.1 | 0.3 | 0 | 0 | 0 | 0 |
| <i>Geranium pusillum</i> | small-flowered crane's-bill | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 |
| <i>Santhus asper</i> | spiny sow-thistle | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Fallugia convolvulus</i> | black bindweed | L+ | Non-native | Forbs | 0 | 0 | 0 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Camelina microcarpa</i> | small-seeded false flax | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 |
| <i>Cichorium intybus</i> | chicory | L+ | Non-native | Forbs | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 |
| <i>Descurainia sophia</i> | flixweed | L+ | Non-native | Forbs | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 |
| <i>Hypericum perforatum</i> | common St. John's-wort | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Mellilotus albus</i> | white sweet clover | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Santhus aleraceus</i> | annual sow-thistle | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Trifolium repens</i> | white clover | L+ | Non-native | Forbs | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Cynanchum rossicum</i> | dog-strangling vine | L+ | Non-native | Targeted Invasive | 0.3 | 1 | 0.7 | 0.7 | 2.3 | 5.2 | 4.8 | 4.3 | 3.7 | 3.7 |
| <i>Cirsium arvense</i> | creeping thistle | L+ | Non-native | Targeted Invasive | 0 | 2.9 | 0.1 | 0.2 | 0 | 0.1 | 0.4 | 0.2 | 1 | 1 |
| <i>Acer negundo</i> | Manitoba maple | L+? | Native | Woody | 0 | 0 | 0 | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| <i>Cornus stolonifera</i> | red osier dogwood | L5 | Native | Woody | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Vitis riparia</i> | riverbank grape | L5 | Native | Woody | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Rhamnus cathartica</i> | common buckthorn | L+ | Non-native | Woody | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Solanum dulcamara</i> | bittersweet nightshade | L+ | Non-native | Woody | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Acer tataricum</i> ssp. <i>ginnala</i> | Amur maple | L+ | Non-native | Woody | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| Thatch | Thatch | | | | 26.8 | 23 | 2.4 | 1.4 | 9 | 6 | 54.8 | 77.8 | 77.8 | 77.8 |
| Bare soil | Bare soil | | | | 0 | 7 | 2.4 | 6.2 | 3.6 | 2.2 | 0 | 0 | 0.4 | 0.4 |

*Only summer survey completed

Xerces experimental plots

In 2022, an experimental site preparation trial plot was set up in section 5.3. The broad goal of the experiment was to determine how a unique site preparation technique (termed the Xerces technique) affects seeding success in The Meadoway. The Xerces site preparation method included performing a deep plow, flipping the soil, followed by a light discing, and seeding in mid-June 2022. Common evening-primrose seed was also added in fall/winter 2022. Unlike the current site preparation method, the Xerces method does not include glyphosate application and involves less intensive soil disturbance, resulting in reduced soil compaction and an untreated seed bed. In contrast, the current site preparation method includes multiple rounds of rototilling and the application of glyphosate. By conducting this study, we wanted to understand how the percent cover of native species and stem count of species from the seed mix varies between the Xerces method and the current method.

For this assessment, the most effective method was defined as the one that maximized both the percent cover of native species and total stem count of species from the seed mix.

From 2023-2025, 10 plots (1m x 1m) treated with the Xerces method and 4 plots (1m x 1m) treated with the current method were monitored each year. While we aimed for consistency of all factors other than the site preparation method, there were several differences between the Xerces method plots and the current method plots including using different seed mixes, different timing of seeding, and different treatments for invasives. These differences should be considered when interpreting results.

Percent cover of native and exotic species varied between the site preparation methods (Figures 7 and 8). Plots treated with the Xerces method had on average 61% cover of native species, while plots treated with the current method had on average 59% cover of native species across all years. Plots treated with the Xerces method had on average 38% cover of exotic species, while plots treated with the current method had 25% cover of exotic species across all years. The Xerces plots generally had more exotics and in 2025 they had more dog-strangling vine and creeping thistle than in previous years.

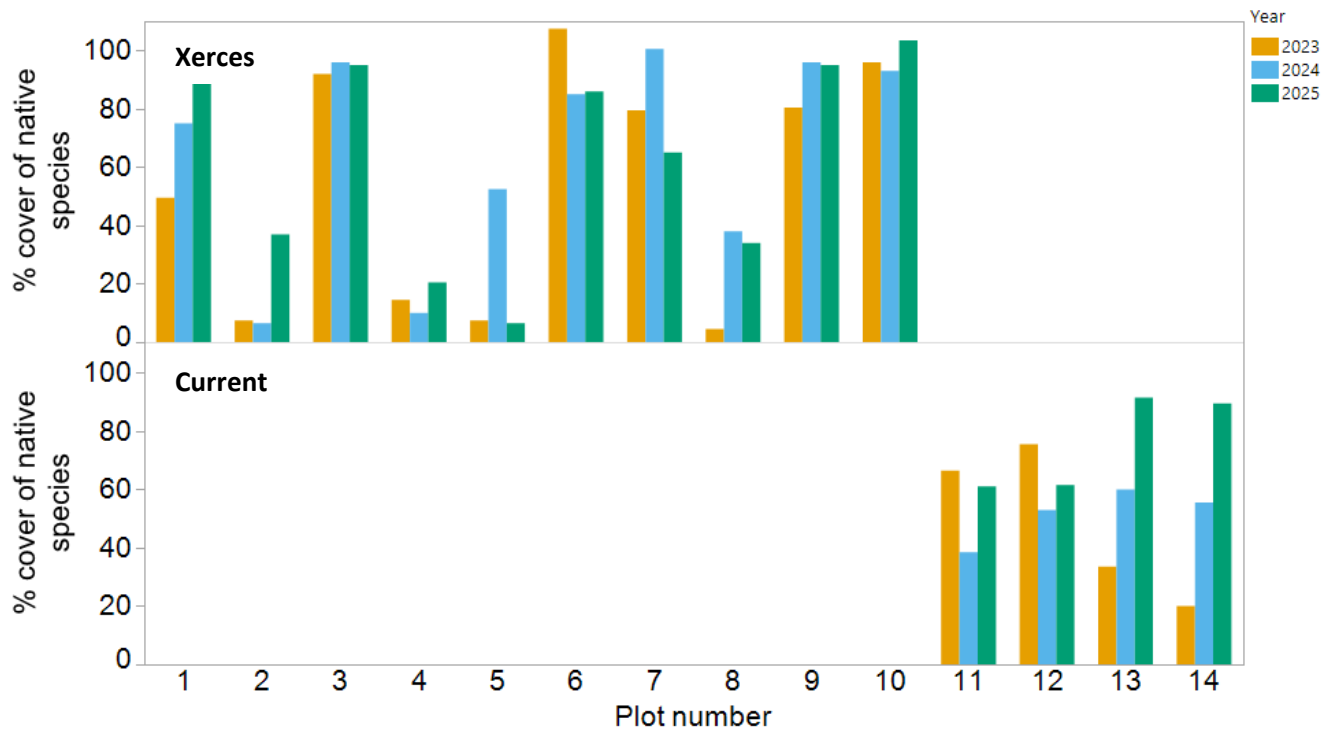


Figure 7. Total percent cover of native plant species in plots treated with the Xerces method or the current method.

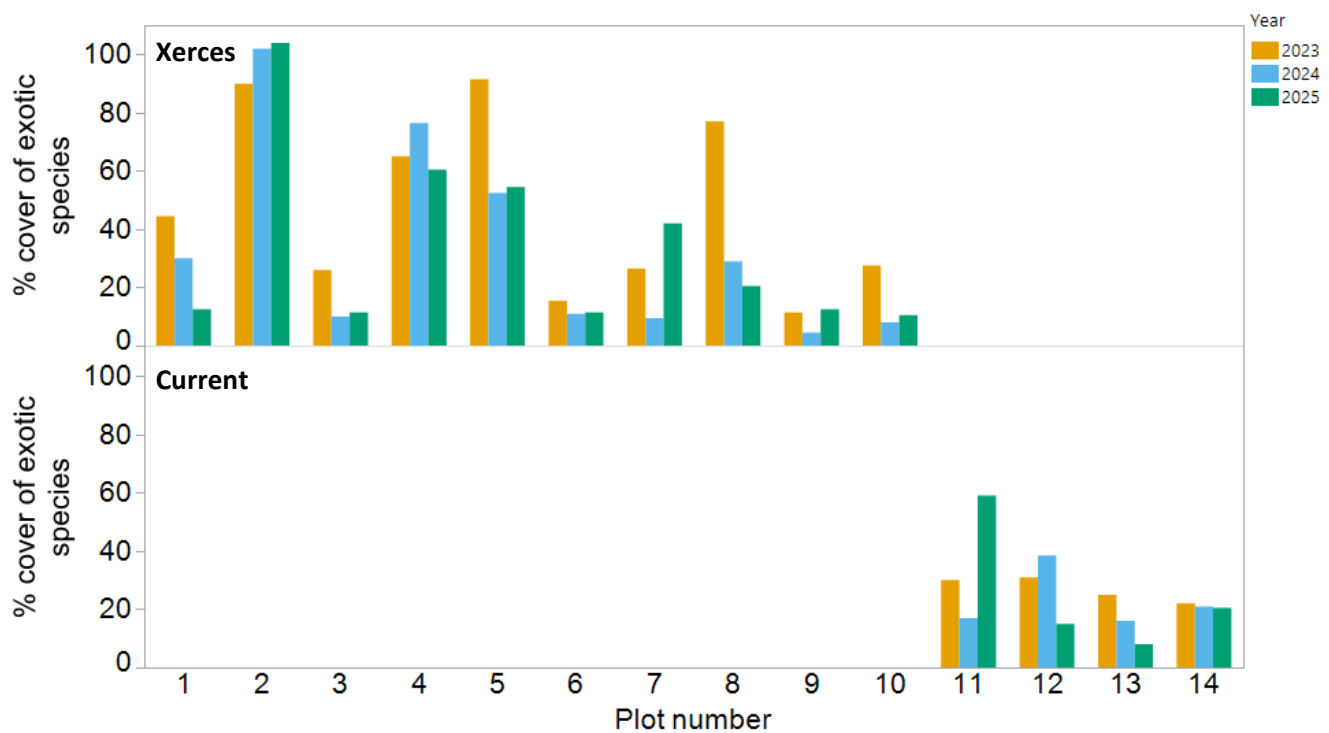


Figure 8. Total percent cover of exotic plant species in plots treated with the Xerces method or the current method.

Section 4.2 Site Preparation Trial

Section 4.2 was seeded with Dry Mesic seed mix in 2013. The area was mowed by contractors midway through 2016 and has continued to be mowed regularly by City contractors since the summer of 2016. Some seeded native species are surviving despite the frequent mowing. In 2024, three site preparation techniques were tested in small areas of section 4.2: Area A (green), Area B (blue), and Area C (orange) (Figure 9). Area A was mowed multiple times and invasive species were spot-sprayed; no tilling occurred in this area (Turf Drill). Area B was sprayed across the entire area 3 times, with additional spot spraying to target remaining invasive species. Oats were seeded between spray applications, and no tilling occurred (Spray - No Till). In the fall of 2024, Area A was seed drilled with a turf drill and Area B was seeded with a typical seed drill. Both areas were sown with the Butterfly seed mix. Area C was mowed multiple times and invasive species were spot sprayed following the same approach used in Area A. In the fall of 2024, Area C was plowed and disced (Xerces method) and then hand-seeded with the Butterfly seed mix (Figure 10).



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Figure 9: Area A (green), Area B (red), Area C (blue), and the passively re-restored areas (purple).

Data collection began in fall 2025. Five 1m X 1m monitoring subplots were set up in each of the small areas (A, B, and C) for a total of 15 subplots. The Butterfly seed mix includes 29 species. Across the 15 subplots, 22 species from the seed mix were observed, although in smaller quantities than the projected number of seeds (Table 33).

The Turf Drill seeding had the lowest number of species from the seed mix; only 4 of 29. The Spray and No Till yielded almost the same number of species from the seed mix as the Xerces (15 and 16, respectively).



Figure 10. Subplots set up site prep trial methods section 4.2: the Turf Drill seeding (left), The Spray and No Till (middle) and Xerces (right).

The perennial species in the Turf Drill area were mature (several were flowering) and bigger than species in the Spray - No Till and the Xerces. Their relative covers were larger than the typical seedling covers one year after seeding. Therefore, the four seed mix species that were observed in the Turf Drill seeding area (Area A) likely came from the 2013 Dry Mesic seed mix and did not represent success from the more recent seeding.

The four most observed species in the Spray and No Till and Xerces methods were Canada wild rye, foxglove beard-tongue, common evening-primrose, and black-eyed Susan (Table 33).

The observed number of species from the seed mix was almost the same for the Xerces and Spray - No Till subplots. However, for most species, the Spray - No Till subplots had higher overall quantities and higher germination rates compared to Xerces subplots (Table 33 and Figure 11). For instance, tall cinquefoil (*Drymocallis arguta*) had the highest germination rate of 30.8% in Spray - No Till subplots but had only 3% in the Xerces subplots. Nine of the species observed in Spray - No Till subplots had over 10% germination rate. The highest germination rate in the Xerces subplots was less than 20%, and most species had less than a 10% germination rate.

From observations over the last nine years in the Meadoway, certain species (e.g., tall ironweed, *Vernonia gigantea*) may take longer to germinate and get to an identifiable size. Tall ironweed, for example, was not observed initially in newly seeded plots but appeared 3-4 years after seeding. Monitoring for a second growing season would be beneficial to capture some of the slower germinating and maturing species.

Table 33. Projected versus observed seed density for Turf Drill Seeding, Spray No Till and Xerces subplots in section 4.2

| Scientific Name | Common Name | Projected number of seeds per 1 m x 1m | Average number of plants in 1 m x 1m | | |
|---|--------------------------|--|--------------------------------------|---------------|--------|
| | | | Turf Drill Seeding | Spray No Till | Xerces |
| <i>Elymus canadensis</i> var. <i>canadensis</i> | Canada wild rye | 39 | | 7.6 | |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | 26 | | 5.2 | 1.6 |
| <i>Rudbeckia hirta</i> var. <i>pulcherrima</i> | black-eyed Susan | 32 | | 3.6 | 2.2 |
| <i>Solidago rigida</i> ssp. <i>rigida</i> | stiff goldenrod | 13 | | 3.2 | |
| <i>Symphyotrichum novae-angliae</i> | New England aster | 19 | | 3 | 1.4 |
| <i>Verbena hastata</i> | blue vervain | 19 | | 2.4 | 1.2 |
| <i>Drymocallis arguta</i> | tall cinquefoil | 6 | | 2 | 0.2 |
| <i>Oenothera biennis</i> | common evening-primrose | 19 | | 1.6 | 3.8 |
| <i>Monarda fistulosa</i> var. <i>fistulosa</i> | wild bergamot | 39 | | 1.6 | |
| <i>Ratibida pinnata</i> | grey-headed coneflower | 13 | | 1.4 | 0.8 |
| <i>Verbena stricta</i> | hoary vervain | 13 | | 1.4 | 0.2 |
| <i>Penstemon hirsutus</i> | hairy beard-tongue | 19 | | 1 | |
| <i>Heliopsis helianthoides</i> | ox-eye | 32 | | 0.6 | 0.4 |
| <i>Symphyotrichum laeve</i> var. <i>laeve</i> | smooth aster | 13 | | 0.2 | 0.8 |
| <i>Solidago nemoralis</i> ssp. <i>nemoralis</i> | grey goldenrod | 6 | | 0.2 | 0.6 |
| <i>Andropogon gerardii</i> | big bluestem | 58 | 0.2 | | 1.4 |
| <i>Asclepias syriaca</i> | common milkweed | 19 | | | 0.6 |
| <i>Asclepias tuberosa</i> ssp. <i>interior</i> | butterfly milkweed | 19 | 0.4 | | 0.4 |
| <i>Desmodium canadense</i> | showy tick-trefoil | 19 | | | 0.2 |
| <i>Lespedeza capitata</i> | round-headed bush-clover | 13 | | | 0.2 |
| <i>Sorghastrum nutans</i> | copper savannah grass | 52 | 1.6 | | |
| <i>Silphium perfoliatum</i> var. <i>perfoliatum</i> | cup-plant | 13 | 0.2 | | |
| <i>Panicum virgatum</i> | switch grass | 58 | | | |
| <i>Schizachyrium scoparium</i> var. <i>scoparium</i> | little bluestem | 19 | | | |
| <i>Coreopsis tripteris</i> | tall coreopsis | 6 | | | |
| <i>Euthamia graminifolia</i> | grass-leaved goldenrod | 6 | | | |
| <i>Pycnanthemum virginianum</i> | Virginia mountain mint | 19 | | | |
| <i>Symphyotrichum ericoides</i> var. <i>ericoides</i> | heath aster | 13 | | | |
| <i>Vernonia gigantea</i> | tall Ironweed | 13 | | | |

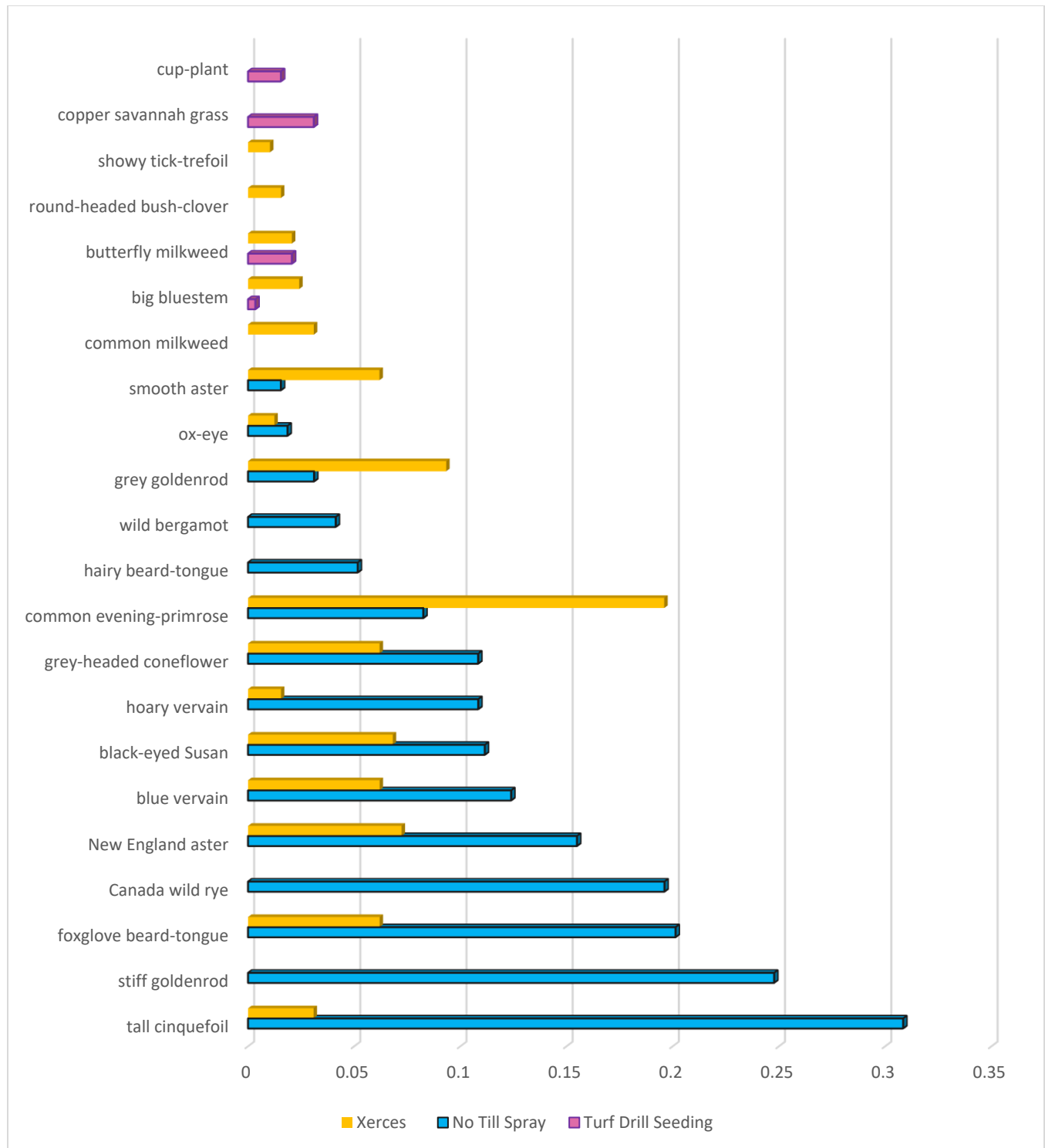


Figure 11. Germination percentage of seeded species using three prep techniques: Turf Drill Seeding, Spray - No Till, and Xerces

Section 5.3 Seeding Methods Trial

Two areas in Section 5.3 were previously used as staging areas by the construction contractor as they implemented the new multi-use trail (Figures 12 and 13). These areas stored large piles of topsoil, stone, and site trailers. Once construction was completed in the fall of 2023, they were scraped smooth leaving behind heavily compacted soil. In 2024, decompaction techniques were implemented which involved four rounds of rototilling followed by seeding a cover crop of oats with the use of harrows and a seed roller for seed-soil contact. In fall 2024, Area D was Hand Seeded and rolled while Area E was Drill Seeded with Butterfly Mix.



Figure 12. Trial areas in Section 5.3. Existing meadows surround these areas.

Data collection began in fall 2025. Five 1m X 1m monitoring subplots were set up in each area (D and E), for a total of 10 subplots. The Butterfly Mix includes 29 species. Across the 10 subplots, 24 species from the seed mix were observed. More seeded species were found in the Drill Seed subplots compared to Hand Seed subplots (24 and 18, respectively; Table 34).



Figure 13. Subplot set-up seeding methods trial, Section 5.3.

Fewer species from the seed mix were observed than the projected number of seeds per 1m x 1m. Most species in the Drill Seed subplots had higher quantities and higher germination rates than the Hand Seed subplots (Table 34 and Figure 14). The three most observed species in both seeding methods were common evening-primrose, black-eyed Susan and Canada wild rye. Common evening-primrose was the most observed species in the Drill Seed subplots, with a 45% germination rate (in contrast to only 11% in Hand Seed subplots). Eight seeded species from the Drill Seed subplots had a greater than 10% germination rate. The species with the highest germination rate in the Hand Seed subplots was grey-headed coneflower (12.4%). Sixteen species from the Hand Seed trial had germination rates of less than 10%.

From observations over the last 9 years in the Meadowway, certain species (e.g., tall ironweed) may take longer to germinate and get to an identifiable size. Tall ironweed, for example, was not observed initially in newly seeded plots but appeared 3-4 years after seeding. Monitoring for a second growing season would be beneficial to capture some of the slower germinating and maturing species.

Table 34. Projected versus observed seed density for hand seed and drill seed subplots section 5.3

| Scientific Name | Common Name | Projected number of seeds per 1 m x 1m | Average number of plants in 1 m x 1m for hand seed | Average number of plants in 1 m x 1m for drill seed |
|--|--------------------------|--|--|---|
| <i>Panicum virgatum</i> | switch grass | 58 | | 0.4 |
| <i>Andropogon gerardii</i> | big bluestem | 58 | 0.4 | 1.2 |
| <i>Sorghastrum nutans</i> | copper savannah grass | 52 | 0.2 | 0.8 |
| <i>Elymus canadensis</i> var. <i>canadensis</i> | Canada wild rye | 39 | 2.4 | 4.8 |
| <i>Monarda fistulosa</i> var. <i>fistulosa</i> | wild bergamot | 39 | 0.6 | 2 |
| <i>Heliopsis helianthoides</i> | ox-eye | 32 | 1.8 | 2.2 |
| <i>Rudbeckia hirta</i> var. <i>pulcherrima</i> | black-eyed Susan | 32 | 3.2 | 7.4 |
| <i>Penstemon digitalis</i> | foxglove beard-tongue | 26 | 0.2 | 0.2 |
| <i>Oenothera biennis</i> | common evening-primrose | 19 | 2.2 | 8.8 |
| <i>Pycnanthemum virginianum</i> | Virginia mountain mint | 19 | | 0.4 |
| <i>Asclepias tuberosa</i> ssp. <i>interior</i> | butterfly milkweed | 19 | | 0.2 |
| <i>Asclepias syriaca</i> | common milkweed | 19 | 0.2 | 1.8 |
| <i>Schizachyrium scoparium</i> var. <i>scoparium</i> | little bluestem | 19 | | |
| <i>Desmodium canadense</i> | showy tick-trefoil | 19 | 0.4 | 0.8 |
| <i>Verbena hastata</i> | blue vervain | 19 | 0.8 | 2.2 |
| <i>Symphotrichum novae-angliae</i> | New England aster | 19 | 1.4 | 3.6 |
| <i>Penstemon hirsutus</i> | hairy beard-tongue | 19 | | 0.6 |
| <i>Symphotrichum laeve</i> var. <i>laeve</i> | smooth aster | 13 | 0.6 | 1 |
| <i>Vernonia gigantea</i> | tall Ironweed | 13 | | |
| <i>Lespedeza capitata</i> | round-headed bush-clover | 13 | 0.4 | 0.2 |
| <i>Silphium perfoliatum</i> var. <i>perfoliatum</i> | cup-plant | 13 | 0.4 | 0.4 |
| <i>Ratibida pinnata</i> | grey-headed coneflower | 13 | 1.6 | 3.4 |
| <i>Solidago rigida</i> ssp. <i>rigida</i> | stiff goldenrod | 13 | 0.2 | 1.8 |
| <i>Verbena stricta</i> | hoary vervain | 13 | 0.2 | 0.4 |
| <i>Symphotrichum ericoides</i> var. <i>ericoides</i> | heath aster | 13 | | 0.4 |
| <i>Drymocallis arguta</i> | tall cinquefoil | 6 | | 0.2 |
| <i>Coreopsis tripteris</i> | tall coreopsis | 6 | | |
| <i>Solidago nemoralis</i> ssp. <i>nemoralis</i> | grey goldenrod | 6 | | |
| <i>Euthamia graminifolia</i> | grass-leaved goldenrod | 6 | | |

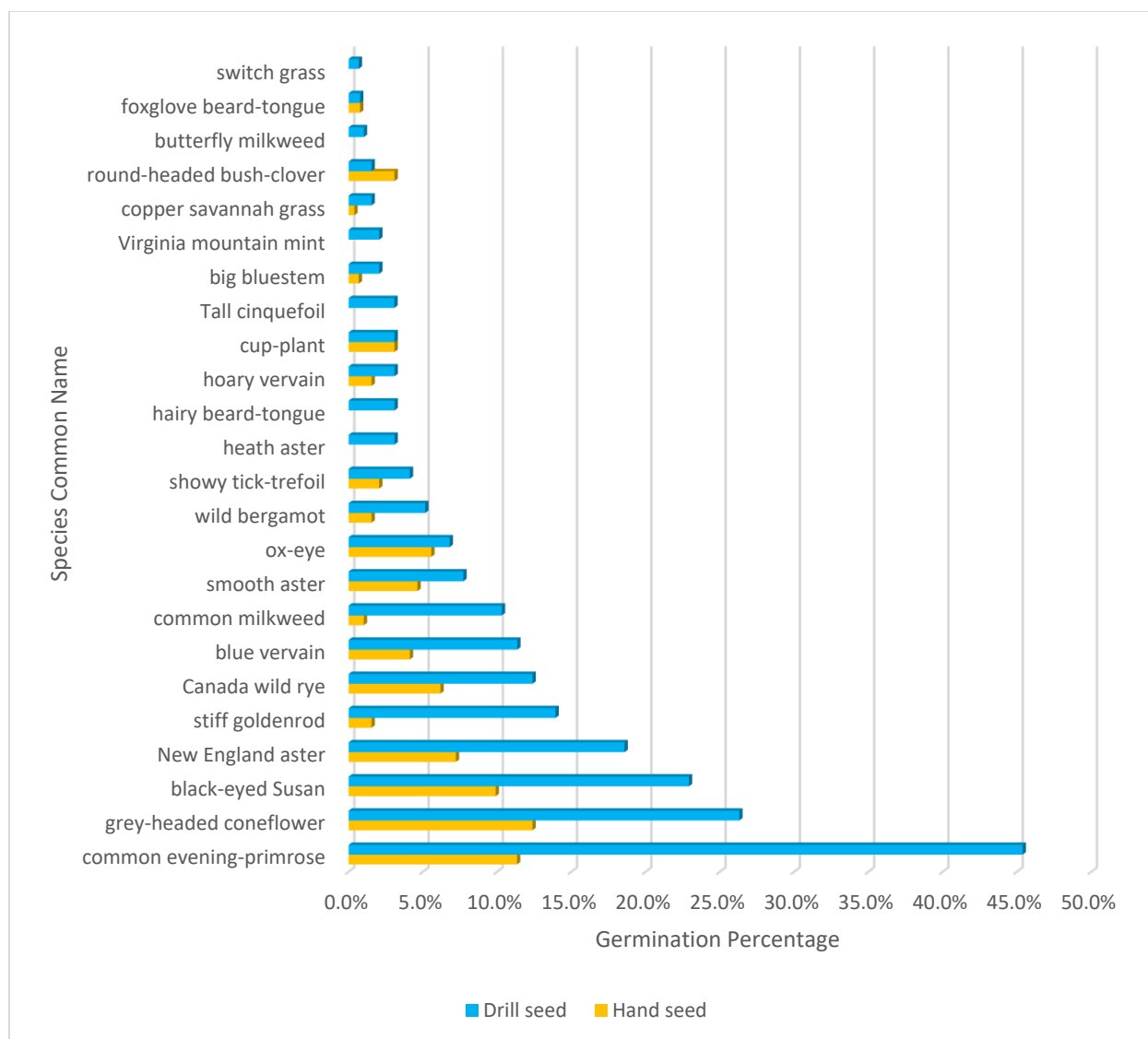


Figure 14. Germination percentage of seeded species using two techniques: Drill Seeding and Hand Seeding

Breeding Bird Surveys

No bird surveys were conducted in 2025. Please see TRCA (2025) for previous results.

Butterfly surveys

Forty-six butterfly species were observed between 2016 and 2025 (Appendix 2). Of these 46 species, the Acadian Hairstreak (*Satyrrium acadica*), Giant Swallowtail (*Papilio cresphontes*), Delaware Skipper (*Anatrytone logan*), Silver-spotted Skipper (*Epargyreus clarus*), Pearl Crescent (*Phyciodes tharos*), and Wild Indigo Duskywing (*Erynnis baptisiae*) are ranked at the provincial level as S4 species. Species with an S4 rank are not rare species, but are uncommon, and there is some cause for long-term concern due to population declines or other factors (Nature Serve 2018). Monarch (*Danaus plexippus*) were also found using The Meadowway in very

high numbers although numbers varied from year-to-year. For example, 280 monarchs were counted using section 4.3 (between Bellamy Road North and Markham Road) in 2019; however, only 6 were recorded in 2025.

Sections 1 and 2

Sections 1.4 (transect 1J) and 2.4 (transect 2K) were monitored both pre-restoration (2019) and post-restoration (2021-2025). Butterfly communities appeared to have changed between 2019 and 2021-2025 by increasing in either species richness or abundance of specific species (Figures 15 and 16). In section 1, species richness has remained relatively similar with 8 or 9 species observed each year except for in 2023 when 13 species were recorded. Species only present post-restoration included Acadian Hairstreak, American Lady (*Vanessa virginiensis*), Common Wood-Nymph (*Cercyonis pegala*), European Common Blue, Pearl Crescent, Peck's Skipper (*Polites peckius*), and Silvery Blue (*Glaucopsyche lygdamus*). Pre-restoration in section 2, only 6 species were present, while post-restoration species richness was generally higher (2021 – 9 species, 2022 – 9 species, 2023 – 10 species, 2024 – 11 species); however, it was lower in 2025 (5 species). New species found post-restoration include European Common Blue which has been increasing in other areas of The Meadoway, and four other resident species including Eastern Tailed Blue (*Cupido comyntas*), European Skipper (*Thymelicus lineola*), Peck's Skipper, and Silvery Blue.

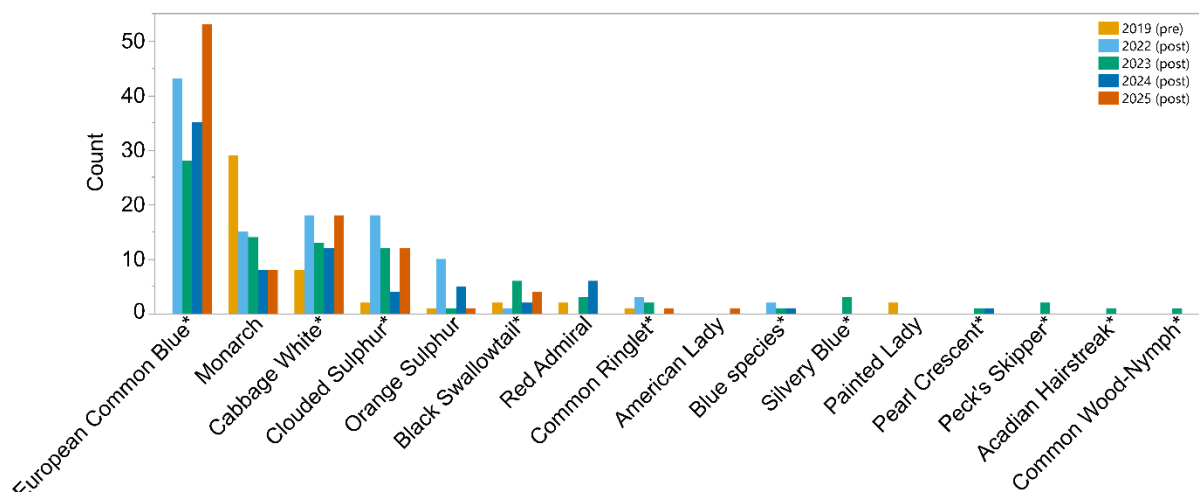


Figure 15. Temporal changes in butterfly species composition and abundance on transect 1J in section 1.4 pre- and post-restoration. An asterisk (*) indicates a resident species.

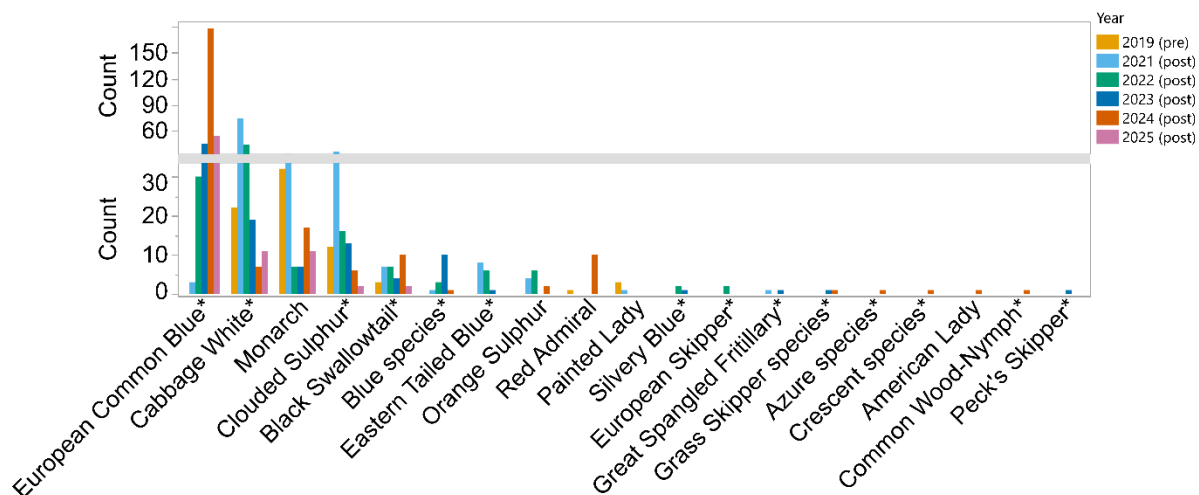


Figure 16. Temporal changes in butterfly species composition and abundance on transect 2K in section 2.4 pre- and post-restoration. An asterisk (*) indicates a resident species.

Section 4

Forty species were observed in section 4, including 32 resident butterfly species. Resident species are those that spend their entire life cycle in the Toronto region. Non-residents include migratory species such as Monarch. Between 2016 and 2025, resident and non-resident abundance varied with residents species more abundant in all years except for 2019 (Figure 17). We compared butterfly communities in section 4 using correlations of year and count by species in transects 4.1 A-B, 4.2 A-D, 4.3 A, B, D, and 4.4 B). Most species had non-significant trends over time; however, several species had significant increasing or decreasing trends. Species with increasing trends including Common Wood-Nymph ($p = 0.018$), European Common Blue (*Polymmatas icarus*; $p < 0.001$), Tawny-edged Skipper (*Polites themistocles*; $p = 0.003$). Species with decreasing trends included Black Swallowtail (*Papilio polyxenes*; $p = 0.002$) and Clouded Sulphur (*Colias philodice*; $p = 0.007$; Figure 18). In addition to section 4, European Common Blue has been increasing in abundance across The Meadoway since 2020 (Figure 32). It is a non-native species first identified in North America in 2007 near Montreal and has since spread both to the east and west of Montreal being observed in Ontario for the first time in 2017.

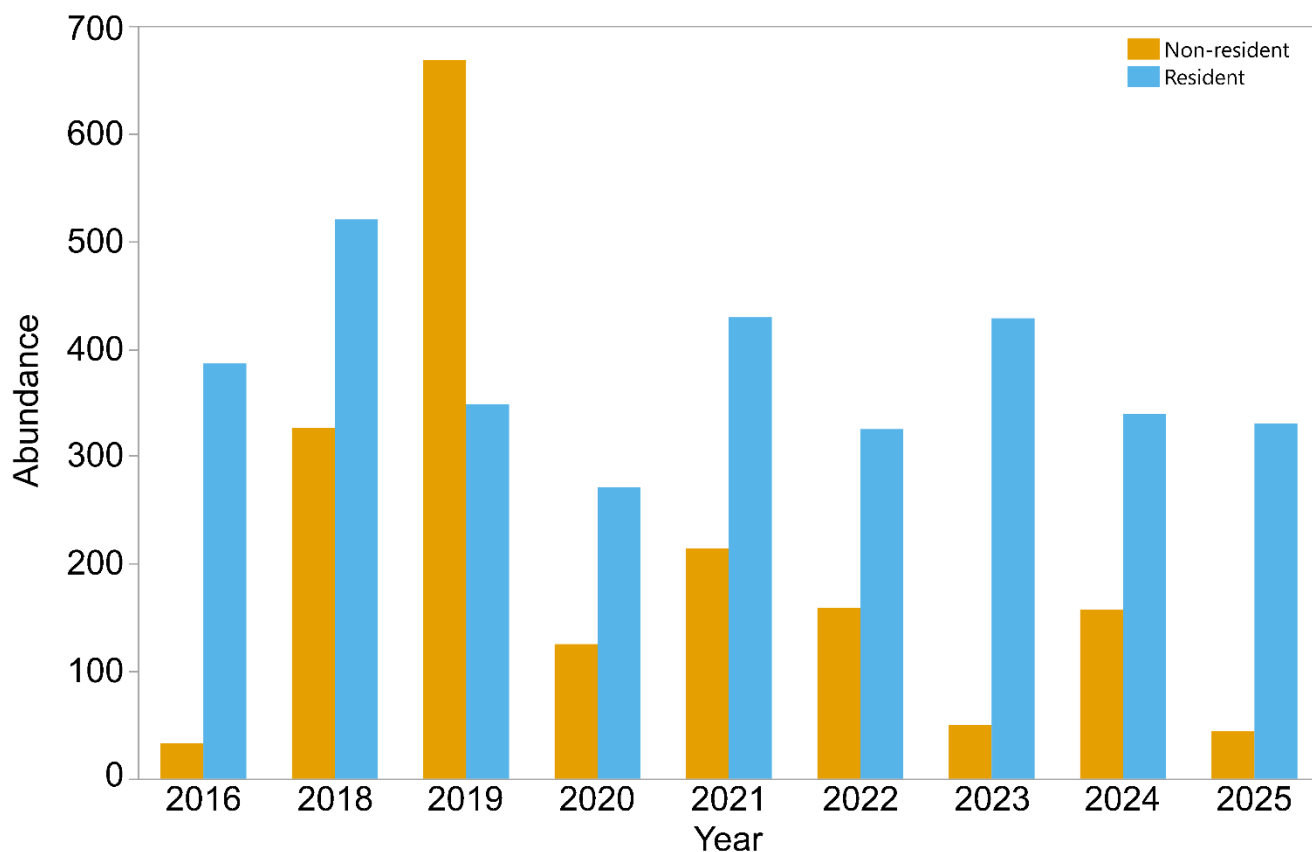


Figure 17. Abundance of resident and non-resident butterflies in section 4 between 2016 and 2025.

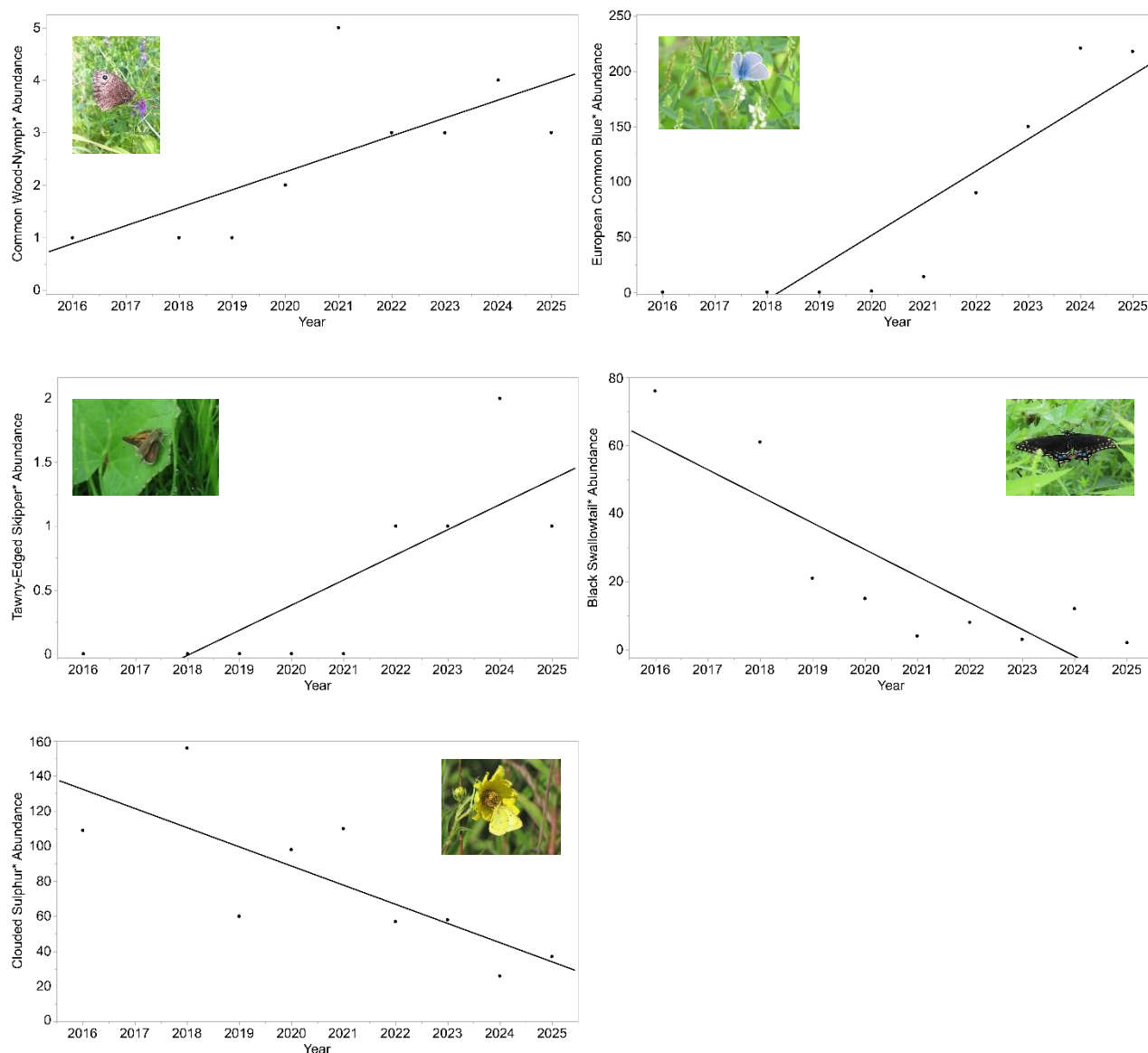


Figure 18. Butterfly species with significant temporal trends in section 4. An asterisk (*) indicates a resident species.

Section 5

Sections 5.3 (transects E and F) and 5.4 (transect G) were monitored both pre-restoration in 2020 and post-restoration in 2023-2025. Butterfly species richness was similar both pre- and post-restoration with high abundance of European Common Blue post-restoration (Figure 19). New species only found post-restoration include European Common Blue, Little Wood Satyr (*Megisto cymela*), Red Admiral (*Vanessa atalanta*), White Admiral (*Limenitis arthemis*), and Painted Lady (*Vanessa cardui*). The abundance of resident butterflies (excluding European Common Blue) was highest pre-restoration (22 individuals) and lowest in 2025 (5 individuals).

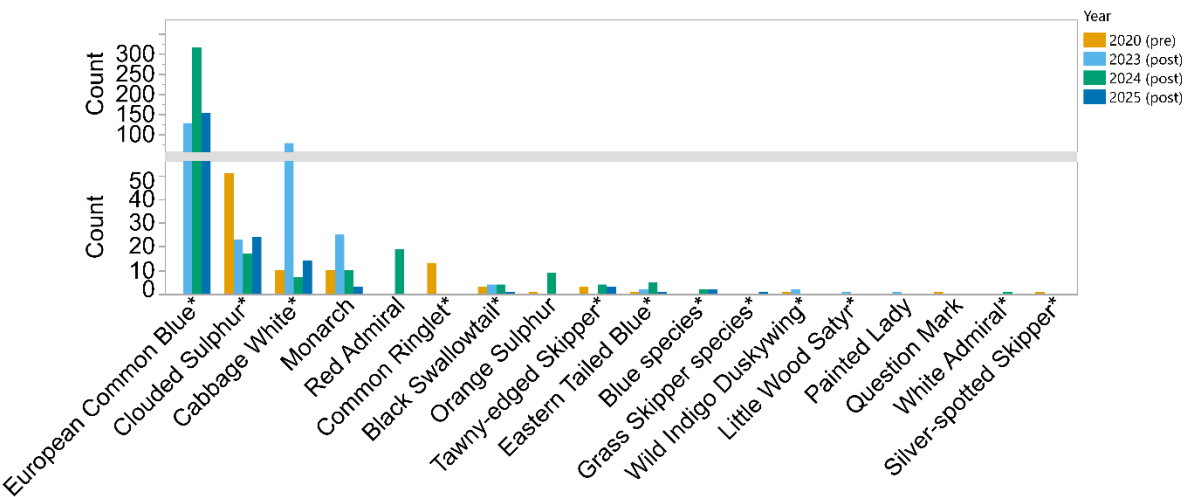


Figure 19. Temporal changes in butterfly species composition and abundance on transects E, F, and G in sections 5.3 and 5.4 pre- and post-restoration. An asterisk (*) indicates a resident species.

Section 6

Section 6.4 (butterfly transect C) was surveyed in 2021, 2022, 2024, and 2025. In 2023, a maintenance mow was conducted along with work on shrub nodes. Between six and eight species were found each year with total counts increasing largely due to increases in European Common Blue but also increases in almost every other species occurred other than Common Ringlet that has not been seen since 2022 (Figure 20).

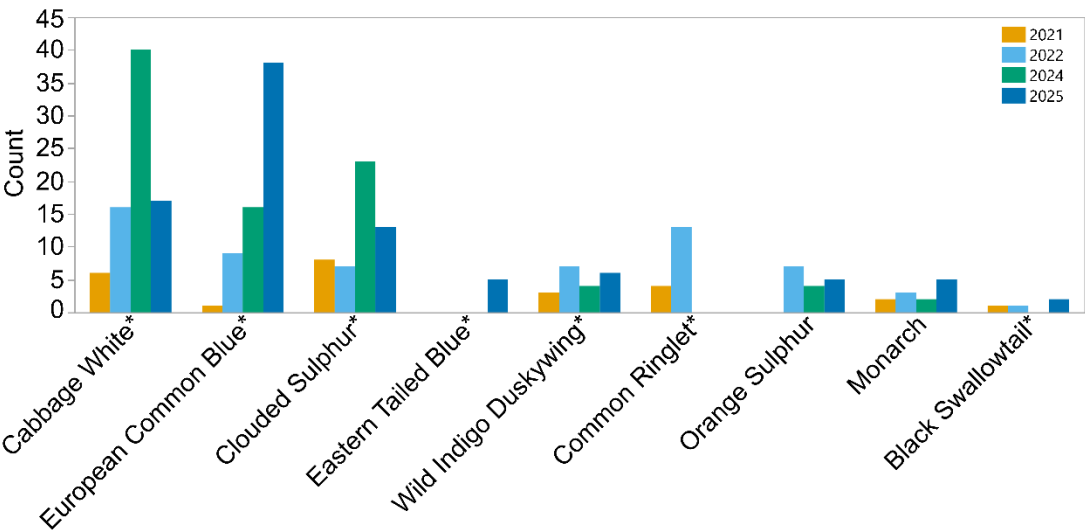


Figure 20. Butterfly abundance and species composition in section 6. An asterisk (*) indicates a resident species.

Section 7

Similar to section 4, section 7 only has post-restoration data from 2016 and 2018-2025 on transects A, B, C, and D. Section 7 supports 32 butterfly species including 26 resident species. The abundance of resident butterflies was highest in 2018 and was higher than non-residents in all other years except for 2019 (Figure 21). There were fewer significant temporal trends for butterfly species in this section compared to section 4 although Silvery Blue declined between 2016 and 2025 ($p = 0.007$) while Wild Indigo Duskywing ($p = 0.026$) and European Common Blue increased ($p < 0.001$) (Figure 22).

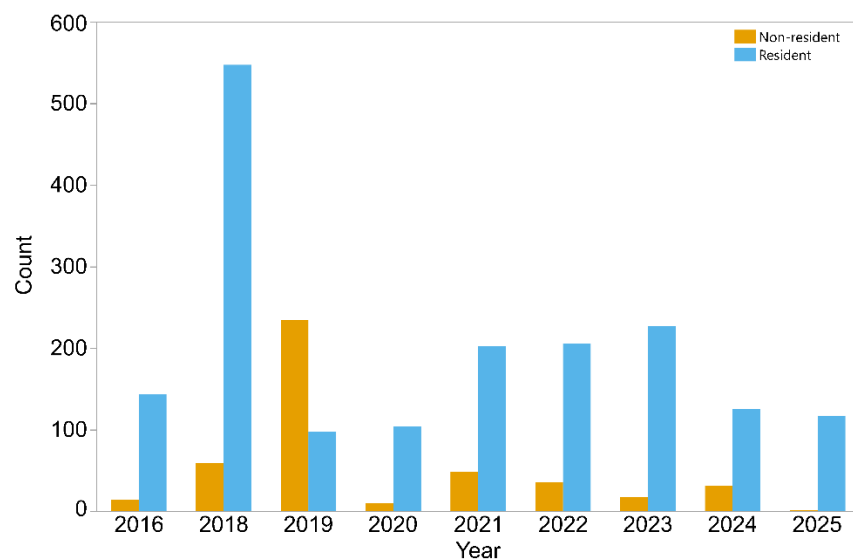


Figure 21. Abundance of resident and non-resident butterflies in section 7 between 2016 and 2025.

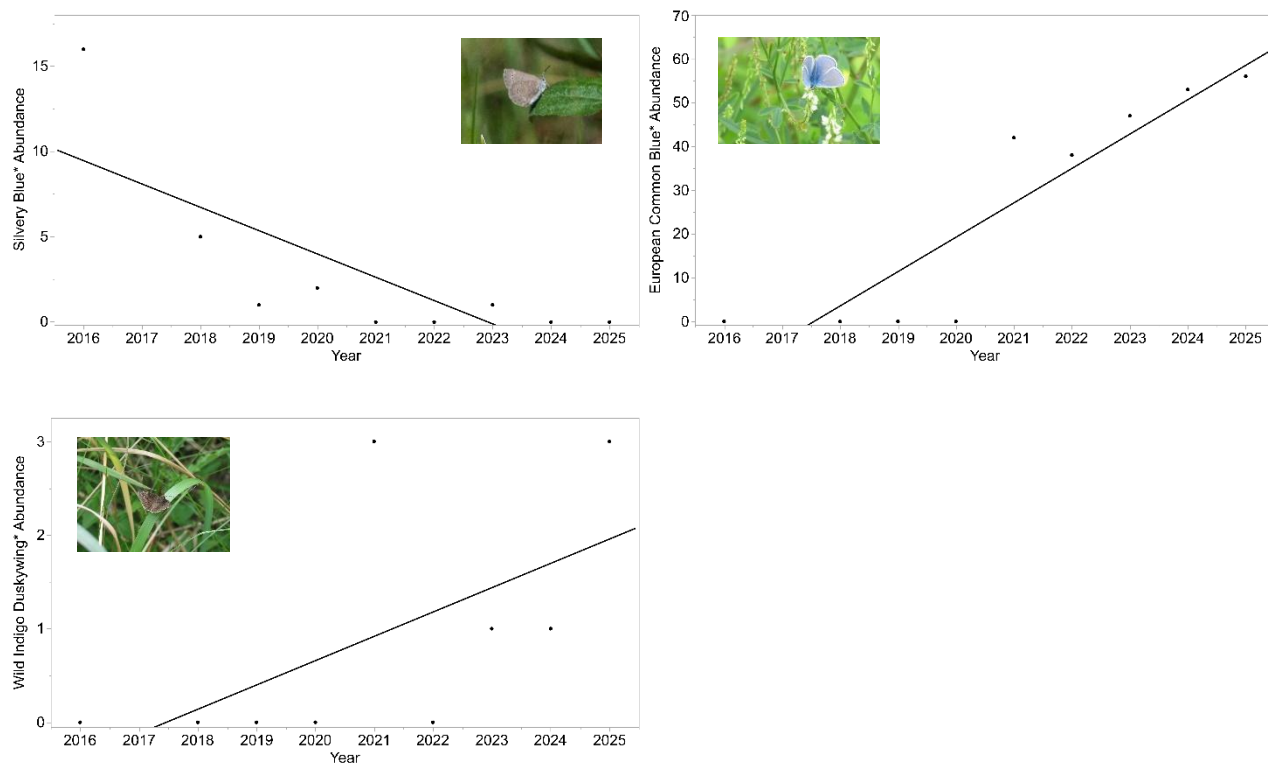


Figure 22. Butterfly species with significant temporal trends in section 7. An asterisk (*) indicates a resident species.

SUMMARY

Meadow monitoring during 2016, and 2018-2025 generally indicated that restoration work in The Meadoway has successfully introduced a variety of meadow flora through seeding, provides habitat used by breeding birds, and foraging opportunities for butterflies. A wide range of species were found during monitoring including numerous rare and sensitive species and species of conservation concern. In addition to these sensitive species, invasive flora species are persisting in The Meadoway although recent management initiatives have been successful at reducing their extent.

Detailed analyses of percent cover for all plant species highlight the success of restoration, with plant communities transitioning from low-diversity assemblages dominated by non-native grasses and forbs to more species-rich communities composed of a diverse mix of native grasses and forbs. Butterfly communities appeared to respond to these changes with higher species richness post-restoration including species likely using the seeded species as host plants. Some changes could also be due to broader changes in butterfly populations including the large increase in European Common Blue which occurred across The Meadoway.

After eight years of monitoring, several patterns emerged related to the longer term success of restoration efforts. Many seeded species have increased in cover and remained high into 2025 including wild bergamot, ox-eye, common milkweed, stiff goldenrod (*Solidago rigida ssp. rigida*), cup-plant, big bluestem, tall sunflower (*Helianthus giganteus*), and copper savannah grass. The longer monitoring record demonstrated the

competitive processes between species after disturbance with some species, such as tall goldenrod, dominating communities (Figure 23) along with the return and increasing cover of non-native grasses such as Kentucky bluegrass. Sections with the longest record of restoration and monitoring indicate that many of the seeded species were establishing populations although again, there was variation among sections and species, and native grasses may be declining in some sections in the most recent years.

Several trends can be observed in the vegetation across the Meadoway using this long-term dataset. The most prominent trend is the increase in dominance of tall goldenrod (*Solidago altissima* var. *altissima*) in the years following native meadow establishment. Over time, tall goldenrod typically becomes the dominant species, despite not being included in the original native seed mix. It is an important keystone species in the Meadoway due to its widespread abundance and high wildlife value as an exceptional nectaring plant, good winter structure, and as an important food source for birds in both summer and winter. The dominance of goldenrod across the Meadoway can be attributed to many factors including rich soils, abundant seed production, and aggressive vegetative reproduction. It is through this last mechanism that tall goldenrod is able to form such an extensive matrix across wide expanses of natural meadows.

While increasing abundance of goldenrod may appear to coincide with a reduction in native species from the seed mix, many of the seeded species tend to persist in the meadows but at reduced densities. While direct competition with goldenrod may be a contributing factor for observed declines of some of these species, another important consideration is mammal browse. For many years during vegetation monitoring, extensive browse has been observed on several species such as ox-eye, tall sunflower, wild bergamot, cup-plant, showy tick-trefoil, and goldenrod being among the favorites. Entire colonies or populations of plants may be impacted within a single season by severe rodent/rabbit browse. Colonial plants such as goldenrod, wild bergamot, and to a more limited extent, ox-eye are best able to cope with intense browse. Species that do not spread colonially like tall sunflower and showy tick-trefoil may experience sharper population declines if browsing is too severe or prolonged over many seasons.

Many native forb species included in Meadoway seed mixes for their size, aesthetic appeal, and contribution to plant diversity also produce large, nutrient-rich seeds that are highly attractive to birds and rodents. Heavy seed predation, particularly in years with low snow cover, may hamper natural recruitment of these species. In meadows where rodent and fall/winter foraging bird populations are high, it is expected that species which do not solely rely on seeds for recruitment, or have smaller, less appealing seeds (like goldenrod) will be favoured over time. It is likely that a combination of browse and seed consumption by birds and rodents will limit the natural abundance and possibly diversity of several grass and forb species in the Meadoway in the years to come. While this may seem like a hindrance to the success of these meadows, it is a sign of the valuable and complex contributions these native plants make to the local ecosystem.

In sections 4 and 5, detailed observations of germination were made in 2025 related to site preparation and seeding methods. Site preparation trials in section 4 found that the Spray - No Till subplots had higher overall quantities and higher germination rates compared to Xerces subplots, germination rates were variable among species, and among treatments. Seeding trials in section 5 found that species in the Drill Seed subplots were found in higher quantities and at higher germination rates than the Hand Seed subplots. It is expected that not all of the seeds will germinate, and different species have different germination and predation rates. The

absence of some species included in the seed mix could be a result of several factors, either alone or in concert such as time passed since completion of the restoration work, specific habitat requirements not being met, low seed viability, and others. Monitoring germination for a second growing season would be beneficial to capture some of the slower maturing species.



Figure 23. Tall goldenrod (*Solidago altissima* var. *altissima*) in section 1.4 in September 2025.

Invasive species management has been effective throughout The Meadowway with most sub-plots showing decreases in cover of creeping thistle and DSV. Overall, current methods appear to be most effective for controlling thistle and DSV although cover appears to be higher or increasing slowly in many sub-plots such as creeping thistle increasing in sections 1.3, 2.2, 3.2, 3.3 and 4.4 and DSV increasing in sections 4.1, 4.2, 4.4, and 7.1. Even with these increases, without management, it is likely that DSV would quickly spread and outcompete other species.

Butterfly monitoring continues to detect species characteristic of meadows in more urbanized areas of southern Ontario. Monarch, Clouded Sulphur, Cabbage White, and European Common Blue remain the most abundant species in The Meadowway in 2025. European Common Blue are dependent on birds foot trefoil, a non-native larval food plant, and as it is removed then populations of European Common Blue should also decline. In addition to resident species, The Meadowway continues to be used by numerous migratory butterfly species due to the abundant nectaring opportunities. Declines in several species also occurred in specific sections including Black Swallowtail and Clouded Sulphur (section 4) and Silvery Blue (section 7). Black

Swallowtails may be supported by planting more host plants in the carrot family as plugs (e.g., purple-stemmed Angelica (*Angelica atropurpurea*), golden Alexanders (*Zizia aurea*)).

Pre- and post-restoration monitoring suggests that restoration has variable effects on butterfly species and this could be related to both seeded species that are host plants and/or changing nectaring opportunities. Many resident butterfly species either only occurred post-restoration or increased in abundance post-restoration including Eastern Tailed Blue, European Skipper, Silvery Blue, and Silver-spotted Skipper although these patterns were section-specific and sometimes only temporary. For example, there was no change in species richness and a decrease in the abundance of resident butterflies in section 5, but in section 1 there was also no change in richness and a peak in abundance in 2023 (the second year post-restoration) followed by a decrease. This is important to consider since resident butterflies occupy an area year-round and are non-migratory. These pre- and post-restoration data suggest that restoration efforts are creating habitat for many butterfly species including resident species; however, with repeated site management (e.g., mowing/tilling), the final impact of the restoration may not be apparent until site management occurs less frequently. Data collected in future years for vegetation, birds, and butterflies should continue to provide evidence of the overall effectiveness of restoration efforts in The Meadoway.

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APPENDIX

Appendix 2. Butterfly occurrence in The Meadoway 2016, 2018-2025.

| Common name | Scientific name | S-rank | Section 1 | | | | | | | | | | Section 2 | | | | | | | | | | Section 3 | Section 4.1 | | | | | | | | | | Section 4.2 | | | | | | | | | | Host plant | |
|----------------------------|----------------------------------|----------|-----------|------|------|------|------|------|------|------|------|------|-----------|------|------|------|------|------|------|------|------|------|-----------|-------------|------|------|------|------|------|------|------|------|------|-------------|------|------|------|------|------|---|---|--|---|---|---|
| | | | 2016 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2016 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2024 | 2016 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2016 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | | | | | | |
| Acadian Hairstreak* | <i>Satyrium acadica</i> | S4 | | | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Various willow species including black willow (<i>Salix nigra</i>) and silk willow (<i>Salix sericea</i>) | | | | |
| American Lady | <i>Vanessa virginiensis</i> | S5 | | | | | | | | | 1 | | | | | | | 1 | | 1 | | | | | | | | | 2 | | | | 1 | | | | | | | Sunflower family, pearly everlasting, plantain-leaved pussy toes, wormwood, ironweed, burdock | | | | | |
| Azure species* | <i>Celastrina</i> spp. | n/a | | | | | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | 1 | | | | | | | | | | | | | |
| Black Swallowtail* | <i>Papilio polyxenes</i> | S5 | | | | 2 | 2 | 4 | 12 | 8 | 6 | 7 | | | 3 | | 7 | 11 | 5 | 16 | 2 | 14 | 3 | 5 | 3 | 1 | 1 | | | 2 | | 22 | 19 | 7 | 7 | 2 | 4 | | 1 | 9 | | Carrot family... parsley, dill, celery,Queen Anne’s lace | | | |
| Blue species* | Lycaenidae family | n/a | | | | | | 15 | 3 | 1 | 1 | | | | | | 1 | 3 | 10 | 1 | | | | | | | | | | | | | 2 | | | 2 | 4 | | 1 | 1 | | | | | |
| Cabbage White* | <i>Pieris rapae</i> | SNA | | | | 8 | 13 | 148 | 151 | 54 | 47 | 50 | | | 22 | | 75 | 82 | 35 | 9 | 15 | | 35 | 55 | 90 | 24 | 12 | 36 | 11 | 11 | 8 | 8 | 21 | 51 | 36 | 12 | 72 | 36 | 49 | 7 | 7 | | Mustards... cabbage, cauliflower and broccoli | | |
| Clouded Sulphur* | Blue species* | S5 | | | | 2 | 16 | 105 | 107 | 36 | 27 | 30 | | | 12 | | 37 | 30 | 20 | 8 | 7 | | 51 | 5 | 5 | 1 | 7 | 14 | 3 | 6 | | 5 | 32 | 52 | 17 | 33 | 46 | 19 | 13 | 5 | 10 | | Legumes... cultivated crops | | |
| Common Buckeye | <i>Junonia coenia</i> | SNR (G5) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Uncommon breeding migrant | | | |
| Common Ringlet* | <i>Coenonympha tullia</i> | S5 | | | | 1 | | 2 | 4 | 2 | | 2 | | | | | | | | | | | 2 | 1 | | | 1 | 1 | | | | 1 | 3 | 7 | 17 | 10 | 18 | 1 | | | | Kentucky bluegrass | | | |
| Common Wood-Nymph* | <i>Cercyonis pegala</i> | S5 | | | | | | | | 1 | | 1 | | | | | | | 1 | | 1 | | | | | 1 | | | | 1 | 1 | 1 | | 1 | 4 | 1 | | | | | 1 | | Grasses (Poaceae) | | |
| Crescent species* | <i>Phyciodes</i> spp. | n/a | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 2 | | | | | | | | | | | | | | | | |
| Delaware Skipper* | <i>Anatrytone logan</i> | S4 | | | | | | | | | 1 | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | Big bluestem and old switch panicgrass | | |
| Dun Skipper* | <i>Euphyes vestris</i> | S5 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | Sedges: chufa flatsedge, sun sedge | | |
| Duskywing species* | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eastern Comma* | <i>Polygonia comma</i> | S5 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | Elm and nettle families: American elm, hops, nettle, false nettle, wood nettle | |
| Eastern Tailed Blue* | <i>Cupido comyntas</i> | S5 | | | | 2 | 13 | | | 1 | 3 | 5 | | | | 8 | 8 | 1 | | | | | 4 | | 1 | | | 6 | | | | 6 | 4 | 8 | 5 | 20 | 1 | 1 | 6 | 7 | | | Clovers and legumes | | |
| Eastern Tiger Swallowtail* | <i>Pterourus glaucus</i> | S5 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | 1 | | | 1 | | 1 | | | | | | Trees... hop tree, cherries and ashes | | |
| European Common Blue* | <i>Polymmatus icarus</i> | SNA | | | | | 32 | 87 | 83 | 197 | 251 | | | | | 3 | 54 | 62 | 205 | 151 | 453 | | | | | | 2 | 1 | 10 | 15 | 12 | | | | | 4 | 25 | 14 | 96 | 44 | | | Alfalfa, clover, crown vetch (Burghardt et al. 2001), bird's-foot trefoil (many other legumes black medick) | | |
| European Skipper* | <i>Thymelicus lineola</i> | SNA | | | | | 6 | 6 | 11 | 1 | | | | | | | 2 | 1 | 1 | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | Grasses (Poaceae) prefers common timothy | |
| Giant Swallowtail* | <i>Papilio cresphontes</i> | S4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Common prickly ash and common hop tree | |
| Grass Skipper species* | Hesperiinae family | n/a | | | | | 2 | | | | 1 | | | | | | | 1 | 1 | | | | | | 1 | | | | | | | | | | | | | 2 | | | | | | | |
| Great-spangled Fritillary* | <i>Speyeria cybele</i> | S5 | | | | | 1 | | | | 1 | | | | | 1 | | 1 | | | | | | | | | | | | | 1 | | | | | | | | | | | | | Violets | |
| Hobomok Skipper* | <i>Lon hobomok</i> | S5 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Various grasses including panic grasses (<i>Panicum</i>) and blue grasses | |
| Lady species | <i>Vanessa</i> spp. | n/a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| Least Skipper* | <i>Ancyloxypha numitor</i> | S5 | | | | | 2 | 8 | | 1 | 3 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Grasses (Poaceae) | |
| Little Wood-Satyr* | <i>Megisto cymela</i> | S5 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | Grasses (Poaceae)... Kentucky bluegrass orchard grass | |
| Little Yellow | <i>Pyrisitia lisa</i> | SNA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | A variety of legumes (Fabaceae) | |
| Monarch | <i>Danaus plexippus</i> | S2N,S4B | | | | 29 | 13 | 50 | 38 | 25 | 49 | 35 | | | 32 | | 34 | 20 | 15 | 28 | 24 | 25 | | 6 | 37 | 11 | 16 | 9 | 1 | 7 | 6 | 7 | 217 | 195 | 46 | 86 | 59 | 22 | 54 | 8 | | | Milkweeds | | |
| Mourning Cloak* | <i>Nymphalis antiopa</i> | S5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | | | Trees... willows, elms, cottonwoods and hackberries | |
| Northern Broken-Dash* | <i>Wallengrenia egeremet</i> | S5 | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Panic grasses: deertongue | |
| Northern Crescent* | <i>Phyciodes cocyta</i> | S5 | | | | | | | | 1 | | 1 | | | | | | | | 3 | | | 1 | 2 | | | | | | | | | | | | | | | | | | | | Asters | |
| Orange Sulphur | <i>Colias eurytheme</i> | S5 | | | | 1 | 4 | 20 | 23 | 1 | 8 | 3 | | | | | 4 | 8 | | 2 | 1 | 7 | 2 | 1 | | | | 2 | | 3 | | 3 | 1 | 3 | 3 | 7 | 3 | | 3 | 1 | | 1 | Legumes... clovers and alfalfas | | |
| Painted Lady | <i>Vanessa cardui</i> | S5 | | | | 2 | | | | | | | | | 3 | | 1 | | | | | | | | | | | | | | | | 7 | | | | | | | | | | | Broad: most often thistles, hollyhock, mallow, various legumes, knapweed, burdock | |
| Pearl Crescent* | <i>Phyciodes tharos</i> | S4 | | | | | | | | 1 | 1 | | | | | | | | | 1 | | | | | | 1 | | | 1 | | | | | 1 | | | | | | 1 | | | | Smooth-leaved true asters | |
| Peck’s Skipper* | <i>Polites peckius</i> | S5 | | | | | 1 | | 6 | | 2 | | | | | | | 1 | | 1 | 1 | 1 | | | 1 | 1 | | | | | 2 | 1 | 3 | 1 | 1 | 1 | 1 | | | | | 1 | | Kentucky bluegrass and little bluestem | |
| Question Mark | <i>Polygonia interrogationis</i> | S5 | | | | | | | | | 1 | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | American elm, red elm, hackberry, Japanese hop, nettles, false nettle | |
| Red Admiral | <i>Vanessa atalanta</i> | S5 | | | | 2 | | 2 | | 14 | 16 | | | | 1 | | | | 14 | | 4 | | | | 13 | | | | 14 | | 1 | 1 | 15 | 1 | 2 | | | 4 | 10 | | | | | Nettles | |
| Silver-spotted Skipper* | <i>Epargyreus clarus</i> | S4 | | | | | 3 | 3 | 1 | | | | | | | | | | | | | 2 | | | | 1 | | 1 | 2 | 2 | | 1 | | | | | | | | | | | | Legumes... showy tick-trefoil, Am. hog peanut and black locust | |
| Silvery Blue* | <i>Glaucopsyche lygdamus</i> | S5 | | | | | 1 | 1 | 4 | | | | | | | | 2 | 1 | | | | | | | | | | | | | | 1 | | 2 | | | | | | | | | | | Legumes... tufted vetch, white sweet clover and alphlfa |
| Spring Azure* | <i>Celastrina lucia</i> | S5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Cherrys, blueberrys and early blooming viburnums | |
| Summer Azure* | <i>Celastrina neglecta</i> | S5 | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | 1 | Dogwoods, New Jersey tea, meadowsweets and viburnums |
| Swallowtail species* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| Tawny-edged Skipper* | <i>Polites themistocles</i> | S5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Panicgrasses and bluegrasses |
| Viceroy* | <i>Limenitis archippus</i> | N5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Appendix 2. (cont’d)

| Common name | Scientific name | S-rank | Section 4.3 | | | | | | | | | | Section 4.4 | | | | | | | | | | Section 5 | | | | | | | | | | Section 6 | | | | | | | | | | Section 7 | | | | | | | | | | Host plant |
|----------------------------|------------------------------|----------|-------------|------|------|------|------|------|------|------|------|------|-------------|------|------|------|------|------|------|------|------|------|-----------|------|------|------|------|------|------|------|------|------|-----------|------|------|------|------|------|------|------|----|----|-----------|----|---|---|---|--|--|--|---|---|---------------------------------|
| | | | 2016 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2016 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2021 | 2022 | 2023 | 2024 | 2025 | 2016 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | | | | | | | | | | | | | |
| Acadian Hairstreak* | <i>Satyrrium acadica</i> | S4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Various willow species including black willow (<i>Salix nigra</i>) and silk willow (<i>Salix sericea</i>) | | | | | | |
| American Lady | <i>Vanessa virginiensis</i> | S5 | | | | | | 1 | | | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | Sunflower family, pearly everlasting, plantain-leaved pussy toes, wormwood, ironweed, burdock | | | | | | | | |
| Azure species* | <i>Celastrina</i> spp. | n/a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | | | | | | | | | | | | |
| Black Swallowtail* | <i>Papilio polyxenes</i> | S5 | 26 | 17 | 3 | 4 | 1 | 1 | | | 1 | 1 | 25 | 20 | 8 | 3 | 1 | 4 | 4 | 1 | 1 | 5 | | | | 4 | 11 | 2 | 1 | 2 | | | | | 2 | 3 | 11 | 3 | 3 | 8 | 3 | 1 | 6 | | | | | Carrot family... parsley, dill, celery and Queen Anne’s lace | | | | | |
| Blue species* | Lycaenidae family | n/a | | | | 21 | | 3 | 3 | 2 | 1 | 1 | | | 2 | | | 1 | 6 | 3 | | 1 | | | | | 1 | 2 | 2 | | | | | | | | | | | 5 | 1 | 3 | 2 | 3 | | | | | | | | | |
| Cabbage White* | <i>Pieris rapae</i> | SNA | 26 | 56 | 40 | 15 | 34 | 17 | 48 | 12 | 16 | 53 | 86 | 38 | 2 | 44 | 46 | 93 | 16 | 9 | 20 | | | | | 89 | 8 | 16 | 15 | 28 | | 40 | 39 | 61 | 327 | 28 | 36 | 77 | 95 | 113 | 29 | 22 | | | | | Mustards... cabbage, cauliflower and broccoli | | | | | | |
| Clouded Sulphur* | <i>Colias philodice</i> | S5 | 35 | 37 | 17 | 40 | 38 | 29 | 15 | 12 | 11 | 37 | 62 | 25 | 18 | 30 | 11 | 27 | 14 | 11 | 80 | | | | | 33 | 21 | 32 | 31 | 23 | | 23 | 37 | 24 | 105 | 58 | 57 | 32 | 45 | 41 | 21 | 17 | | | | | Legumes... cultivated crops | | | | | | |
| Common Buckeye | <i>Junonia coenia</i> | SNR (G5) | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 | | | | 0 | | | | | | | | | | Uncommon breeding migrant | | | | | |
| Common Ringlet* | <i>Coenonympha tullia</i> | S5 | | 1 | | | 1 | 3 | 3 | 2 | 1 | | | | | 3 | 11 | 18 | 3 | | 1 | 15 | | | | | 8 | 49 | | | | | 20 | 66 | | | 4 | 7 | 14 | 13 | 7 | 10 | | | | | Kentucky bluegrass | | | | | | |
| Common Wood-Nymph* | <i>Cercyonis pegala</i> | S5 | | | | 1 | 1 | 2 | 2 | 3 | 4 | 1 | | | | | | | | | | 1 | | | | | | | | | | | | | 1 | | | | 3 | | | 1 | | | | | 1 | Grasses (Poaceae) | | | | | |
| Crescent species* | <i>Phyciodes</i> spp. | n/a | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 8 | | | | | | | | | | | 2 | | | | | | | |
| Delaware Skipper* | <i>Anatrytone logan</i> | S4 | 2 | | | | | 2 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | Big bluestem and old switch panicgrass | | | | |
| Dun Skipper* | <i>Euphyes vestris</i> | S5 | | | | 3 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | Sedges: chufa flatsedge, sun sedge | | | | |
| Duskywing species* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eastern Comma* | <i>Polygonia comma</i> | S5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Elm and nettle families: American elm, hops, nettle, false nettle, wood nettle | | | |
| Eastern Tailed Blue* | <i>Cupido comyntas</i> | S5 | 7 | | | 40 | 52 | 58 | 20 | 8 | 8 | 9 | 2 | 1 | 6 | 5 | 23 | 2 | 3 | 7 | 3 | 2 | | | | 2 | 7 | 8 | 3 | 2 | | | | 5 | 13 | 10 | | | | 8 | | | 2 | 1 | 2 | | | | Clovers and legumes | | | | |
| Eastern Tiger Swallowtail* | <i>Pterourus glaucus</i> | S5 | | | | | | | | | | 1 | 1 | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | Trees... hop tree, cherries and ashes | | | |
| European Common Blue* | <i>Polyommatus icarus</i> | SNA | | | | | | 6 | 29 | 17 | 45 | 33 | | | | | | 7 | 61 | 119 | 92 | 129 | 1 | | | 148 | 363 | 221 | 2 | 59 | | 16 | 203 | | | | | | | 42 | 38 | 47 | 53 | 56 | | | | | Alfalfa, clover, crown vetch (Burghardt et al. 2001), bird's-foot trefoil (many other legumes e.g. black medick) | | | | |
| European Skipper* | <i>Thymelicus lineola</i> | SNA | | | | 5 | 1 | | | | | 1 | | | | | 1 | 5 | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Grasses (Poaceae) prefers common timothy | | | |
| Giant Swallowtail* | <i>Papilio cresphontes</i> | S4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Common prickly ash and common hop tree | | | |
| Grass Skipper species* | Hesperiinae family | n/a | | | | | | | | | | | | 1 | | | 4 | 1 | | | | 1 | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | 2 | | | | | | |
| Great-spangled Fritillary* | <i>Speyeria cybele</i> | S5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Violets | | | |
| Hobomok Skipper* | <i>Lon hobomok</i> | S5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8 | | | | | | | | | | 1 | | | | | 1 | Various grasses including panic grasses (<i>Panicum</i>) and blue grasses | | | |
| Lady species | <i>Vanessa</i> spp. | n/a | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Least Skipper* | <i>Ancyloxypha numitor</i> | S5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Grasses (Poaceae) | |
| Little Wood-Satyr* | <i>Megisto cymela</i> | S5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Grasses (Poaceae)... Kentucky bluegrass and orchard grass | |
| Little Yellow | <i>Pyrisitia lisa</i> | SNA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | A variety of legumes (Fabaceae) |
| Monarch | <i>Danaus plexippus</i> | S2N,S4B | 3 | 46 | 280 | 49 | 68 | 39 | 14 | 26 | 6 | 5 | 28 | 79 | 11 | 44 | 43 | 13 | 23 | 11 | 12 | | | | | 40 | 24 | 13 | 20 | 10 | | 2 | 9 | 4 | 38 | 227 | 7 | 46 | 11 | 11 | 11 | | | | | | | | | Milkweeds | | | |
| Mourning Cloak* | <i>Nymphalis antiopa</i> | S5 | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Trees... willows, elms, cottonwoods and hackberries | |
| Northern Broken-Dash* | <i>Wallengrenia egeremet</i> | S5 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Panic grasses: deertongue | |
| Northern Crescent* | <i>Phyciodes cacyta</i> | S5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Asters | |
| Orange Sulphur | <i>Colias eurytheme</i> | S5 | 2 | 4 | 2 | 3 | 3 | 4 | | | 3 | 9 | 7 | 22 | 2 | | 5 | 21 | | | 4 | 3 | 3 | | | | 11 | 2 | 2 | 15 | | 4 | 5 | 9 | 21 | 2 | 3 | 2 | 22 | 6 | 8 | 1 | | | | | | | | Legumes... clovers and alfalfas | | | |
| Painted Lady | <i>Vanessa cardui</i> | S5 | | | | 1 | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | Broad: most often thistles, hollyhock, mallow, various legumes, knapweed, burdock | | |
| Pearl Crescent* | <i>Phyciodes tharos</i> | S4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Appendix 2. (cont’d)

| |
|---|
| S2N (non-breeding)-Imperiled-imperiled nationally because of rarity due to very restricted range, very few population (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation nationally |
| S3B (breeding)-Vulnerable-vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation |
| S4-Apparently secure-uncommon but not rare; some cause for long-term concern due to declines or other factors |
| S5-Secure-common, widespread, and abundant in Ontario |
| N5-Secure-common, widespread, and abundant in the nation |
| SNR-Unranked-provincial conservation status not yet assessed (G5-globally secure) |
| SNA-Not applicable-a conservation status rank is not applicable because the species is not a suitable target for conservation activities |
| *resident species |

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