## Report on 2019 Phenology Observations

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During the 2019 phenology season, from Feb 27-Nov 7 ( 46 weeks), a total of 3,477 observations of 235 species were recorded.

Table 1. Transects in the 2019 LREC phenology study.

| Transect | Habitat Type | Length (m) |
| :--- | :--- | :---: |
| North Prairie | Wet-Mesic Prairie | 200 |
| North Woods | Riparian Woods | 180 |
| North Edge | Prairie/Woodland Transition | 130 |
| South Prairie | Wet-Mesic Prairie | 160 |
| South Woods | Riparian Woods | 200 |
| Pasture Prairie | Wet-Mesic Prairie | 100 |
| Mulch Woods | Riparian Woods | 90 |
| South Edge | Prairie/Woodland Transition | 120 |

Table 2. Observation and species count by transect

| Transect | observations | species count |
| :---: | :---: | :---: |
| North Prairie | 672 | 119 |
| South Prairie | 470 | 98 |
| Pasture Prairie | 557 | 106 |
| North Woods | 437 | 97 |
| South Woods | 338 | 73 |
| North Edge | 417 | 89 |
| South Edge | 409 | 91 |

Table 3. List of species recorded during the 2019 phenology season. Species names in all caps are non-native.

| Species | Common name | Habitat |
| :---: | :---: | :---: |
| Acalypha rhomboidea | Rhombic Copperleaf | Woodland |
| Acer saccharinum | Silver Maple | Edge |
| Acer saccharum | Sugar Maple | Edge |
| Achillea millefolium | Yarrow | Prairie |
| Aesculus glabra | Ohio Buckeye | Prairie,Woodland,Edge |
| Aesculus pavia | Red Buckeye | Edge |
| Agalinis tenuifolia | Slender False Foxglove | Prairie |
| Agastache nepetoides | Yellow Giant Hyssop | Woodland |
| Ageratina altissima | White Snakeroot | Woodland,Edge |
| Agrimonia paraviflora | Swamp Agrimony | Prairie,Edge |
| ALLIARIA PETIOLATA | Garlic Mustard | Prairie,Woodland |
| Allium canadense | Wild Garlic | Woodland,Edge |
| Allium stellatum | Prairie Onion | Prairie |
| Ambrosia artemisiifolia | Common Ragweed | Prairie,Edge |
| Ambrosia trifida | Giant Ragweed | Prairie,Woodland,Edge |
| Amorpha fruticosa | Indigo Bush | Prairie |
| Amsonia illustris | Shining Bluestar | Prairie |
| Apios americana | Groundnut | Prairie,Edge |
| Apocynum cannabinum | Prairie Dogbane | Prairie |
| Arabis shortii | Toothed Cress | Woodland |
| Arisaema dracontium | Green Dragon | Woodland |
| Arisaema triphyllum | Jack-in-the-Pulpit | Woodland |
| Arnoglossum atriplicifolium | Pale Indian Plantain | Prairie,Woodland,Edge |
| Arnoglossum plantagineum | Prairie Indian Plantain | Woodland |
| Arnoglossum reniforme | Great Indian Plantain | Woodland |
| Asarum canadense | Wild Ginger | Woodland |
| Asclepias incarnata | Swamp Milkweed | Prairie |
| Asclepias syriaca | Common Milkweed | Prairie |
| Asclepias tuberosa | Butterfly Milkweed | Prairie |
| Asimina triloba | Pawpaw | Woodland |
| Baptisia alba | White Wild Indigo | Prairie |
| BARBAREA VULGARIS | Yellow Rocket | Prairie,Woodland,Edge |
| Bidens aristosa | Swamp Marigold | Prairie |


| Bidens vulgata | Beggar Ticks | Prairie,Woodland |
| :---: | :---: | :---: |
| Blephilia hirsuta | Wood Mint | Woodland,Edge |
| Boehmeria cylindrica | Smallspike False Nettle | Woodland,Edge |
| Calystegia sepium | Hedge Bindweed | Prairie,Edge |
| Camassia scilloides | Wild Hyacinth | Prairie |
| Campanulastrum americanum | American Bellflower | Prairie,Woodland,Edge |
| CAPSELLA BURSA-PASTORIS | Shepherd's Purse | Prairie |
| Cardamine concatenata | Toothwort | Woodland |
| CARDAMINE HIRSUTA | Hoary Bitter Cress | Prairie,Woodland,Edge |
| Cardamine parviflora | Small-Flowered Bitter Cress | Prairie,Edge |
| Cardamine pensylvanica | Pennsylvania Bittercress | Prairie |
| Catalpa speciosa | Northern Catalpa | Woodland |
| Cephalanthus occidentalus | Buttonbush | Edge |
| CERASTIUM FONTANUM | Mouse-eared Chickweed | Prairie,Edge |
| Cercis canadensis | Eastern Redbud | Woodland,Edge |
| Chaerophullum procumbens | Wild Chervil | Woodland,Edge |
| Chamaecrista fasciculata | Partridge Pea | Prairie,Woodland |
| Chelone glabra | White Turtlehead | Edge |
| Chelone obliqua | Rose Turtlehead | Prairie,Woodland,Edge |
| Circaea lutetiana | Enchanters Nightshade | Woodland,Edge |
| Cirsium discolor | Field Thistle | Prairie |
| Claytonia virginica | Spring Beauty | Prairie,Woodland,Edge |
| Collinsia verna | Blue-Eyed Mary | Prairie,Woodland |
| COMMELINA COMMUNIS | Common Dayflower | Woodland |
| Conoclinium coelestinum | Mist Flower | Prairie,Woodland |
| Coreopsis tripteris | Tall Coreopsis | Prairie,Edge |
| Cornus drumondii | Rough-Leaved Dogwood | Woodland,Edge |
| Cornus racemosa | Gray Dogwood | Edge |
| Corylus americana | Hazelnut | Edge |
| Cryptotaenia canadensis | Honewort | Prairie,Woodland,Edge |
| Cuscuta gronovii | Scaldweed | Edge |
| Cuscuta sp. | Dodder | Edge |
| Cynanchum laeve | Honeyvine Milkweed | Prairie |
| DAUCUS CAROTA | Queen Anne's Lace | Edge |
| Desmodium perplexum | Beggar's Lice | Prairie,Woodland,Edge |
| DUCHESNEA INDICA | Indian Strawberry | Woodland,Edge |


| Echinacea purpurea | Purple Coneflower | Prairie |
| :---: | :---: | :---: |
| Elephantopus carolinianus | Elephant Foot | Prairie,Woodland,Edge |
| Enemion biternatum | False Rue Anemone | Woodland |
| Equisetum arvense | Horsetail | Prairie |
| Erigeron annuus | Annual Fleabane | Prairie,Woodland,Edge |
| Erigeron philadelphicus | Marsh Fleabane | Prairie,Woodland,Edge |
| Erigeron pulchellus | Robin's Plantain | Prairie |
| Eryngium yuccifolium | Rattlesnake Master | Prairie |
| Eupatorium altissimum | Tall Boneset | Edge |
| Eupatorium perfoliatum | Common Boneset | Prairie |
| Euthamia graminifolia | Flat-top Goldenrod | Prairie,Edge |
| Eutrochium fistulosum | Hollow Joe Pye Weed | Prairie |
| Eutrochium pupureum | Joe Pye Weed | Prairie,Woodland,Edge |
| GALANTHUS NIVALIS | Snowdrops | Woodland |
| Galium aparine | Annual Bedstraw | Woodland,Edge |
| Gentiana andrewsii | Closed Gentian | Prairie |
| Geranium carolinianum | Carolina Cranesbill | Prairie |
| Geranium maculatum | Wild Geranium | Woodland |
| Geum canadense | White Avens | Prairie,Woodland,Edge |
| Geum vernum | Spring Avens | Prairie,Edge |
| GLECHOMA HEDERACEA | Creeping Charlie | Prairie,Woodland,Edge |
| Hackelia virginiana | Stickseed | Woodland |
| Helenium autumnale | Sneezeweed | Prairie |
| Helianthus grosseserratus | Sawtooth Sunflower | Prairie |
| Helianthus maximiliani | Maximillian Sunflower | Prairie |
| Helianthus mollis | Downy Sunflower | Prairie |
| Helianthus tuberosus | Jerusalem Artichoke | Prairie,Woodland,Edge |
| Heliopsis helianthoides | False Sunflower | Prairie,Edge |
| Hibiscus lasiocarpus | Rose Mallow | Prairie,Edge |
| Hydrophyllum virginianum | Virginia Waterleaf | Prairie,Woodland,Edge |
| Hypericum mutilum | Weak/Dwarf St. John's Wort | Prairie,Edge |
| Impatiens capensis | Orange Jewelweed | Prairie,Woodland,Edge |
| Iodanthus pinnatifidus | Purple Rocket | Woodland |
| Iris fulva | Copper Iris | Edge |
| Iris virginica shrevii | Blue Flag Iris | Prairie,Edge |
| Lactuca floridana | Blue Lettuce | Woodland |


| Lamium galeobdolon | Yellow Archangel | Woodland |
| :---: | :---: | :---: |
| LAMIUM PURPUREUM | Dead Nettle | Prairie,Woodland,Edge |
| Laportea canadensis | Wood Nettle | Woodland |
| Liatris pycnostachya | Prairie Blazing Star | Prairie,Edge |
| Lindera benzoin | Spice Bush | Woodland |
| Lindernia dubia | False Pimpernel | Prairie,Edge |
| Liriodendrom tulipifera | Tulip Tree | Woodland |
| LIRIOPE SPICATA | Monkey Grass | Edge |
| Lobelia inflata | Indian Tobacco | Prairie,Woodland,Edge |
| Lobelia siphilitica | Great Blue Lobelia | Prairie,Woodland |
| LONICERA JAPONICA | Japanese Honeysuckle | Prairie,Woodland,Edge |
| LONICERA MAACKII | Bush Honeysuckle | Woodland |
| Ludwigia alternifolia | Bushy Seedbox | Prairie,Edge |
| Lycopus americanus | American Bugleweed | Prairie |
| Lysimachia lanceolata | Lance-Leaved Loosestrife | Edge |
| LYSIMACHIA NUMMULARIA | Creeping Jenny / Moneywort | Edge |
| Lythrum alatum | Winged Loosestrife | Prairie |
| MEDICAGO LUPULINA | Black Medic | Prairie,Woodland |
| Mertensia virginica | Virginia Bluebells | Woodland |
| Monarda fistulosa | Wild Bergamot | Prairie,Edge |
| NARCISSUS PSEUDONARCISSUS | Daffodil | Prairie,Woodland,Edge |
| Oenothera biennis | Common Evening Primrose | Prairie,Edge |
| Oenothera macrocarpa | Missouri Evening Promrose | Prairie |
| Oligoneuron rigidum | Stiff Goldenrod | Prairie |
| ORNITHOGALUM UMBELLATUM | Star of Bethlehem | Prairie,Woodland,Edge |
| Osmorhiza claytonii | Sweet Cicely | Woodland |
| Oxalis dillenii | Yellow Wood Sorrel | Prairie |
| Oxalis stricta | Common Wood Sorrel | Prairie,Woodland,Edge |
| Packera glabella | Butterweed | Woodland |
| Packera obovata | Round-Leaved Groundsel | Prairie,Woodland |
| Pedicularis canadensis | Wood Betony | Prairie |
| Pedicularis lanceolata | Swamp Betony | Prairie,Edge |
| Penstemon digitalis | Foxglove Beardtongue | Prairie,Edge |
| PERILLA FRUTESCENS | Beefsteak Plant | Woodland |
| Phacelia purshii | Miami Mist | Woodland |
| Phlox divaricata | Wild Sweet William | Woodland,Edge |


| Phlox paniculata | Perennial Phlox | Prairie,Woodland,Edge |
| :---: | :---: | :---: |
| Phryma leptostachya | Lopseed | Woodland |
| Phyla lanceolata | Fog Fruit | Prairie,Woodland,Edge |
| Physostegia virginiana | False Dragonhead / Obedient Plant | Prairie |
| Phytolacca americana | Pokeweed | Woodland,Edge |
| Pilea pumila | Canadian Clearweed | Woodland,Edge |
| Podophyllum peltatum | Mayapple | Woodland,Edge |
| Polemonium reptans | Jacob's Ladder | Prairie,Woodland,Edge |
| POLYGONUM CESPITOSUM | Creeping Smartweed | Prairie,Woodland,Edge |
| Polygonum hydropiper | Water Pepper | Prairie,Woodland,Edge |
| Polygonum hydropiperoides | Mild Water Pepper | Edge |
| Polygonum scandens | Climbing False Buckwheat | Woodland |
| Polygonum virginianum | Virginia Knotweed / Jumpseed | Prairie,Woodland,Edge |
| Potentilla simplex | Common Cinquefoil | Prairie,Edge |
| Prunella vulgaris var. lanceolata | Self-heal | Prairie |
| Prunus americana | Wild Plum | Edge |
| Pycnanthemum tenuifolium | Slender Mountain Mint | Prairie |
| Pycnanthemum verticillatum v. pilosum | Hairy Mountain Mint | Prairie,Edge |
| Pycnanthemum virginianum | Common Mountain Mint | Prairie,Edge |
| Ranunculus abortivus | Littleleaf Buttercup | Prairie,Woodland,Edge |
| RANUNCULUS FICARIA | Lesser Celandine | Prairie,Woodland,Edge |
| Ranunculus hispidus | Hispid Buttercup | Woodland |
| Ratibida pinnata | Grey Headed Coneflower | Prairie,Edge |
| Ribes missouriense | Missouri Gooseberry | Woodland,Edge |
| ROSA MULTIFLORA | Multiflora Rose | Prairie |
| Rosa palustris | Swamp Rose | Prairie |
| Rubus allegheniensis | Common Blackberry | Prairie,Edge |
| Rubus flagellaris | Common Dewberry | Prairie,Woodland,Edge |
| Rudbeckia hirta | Black-Eyed Susan | Prairie,Edge |
| Rudbeckia laciniata | Goldenglow | Prairie,Woodland,Edge |
| Rudbeckia subtomentosa | Sweet Coneflower | Prairie,Edge |
| Rudbeckia triloba | Brown-Eyed Susan | Prairie,Woodland,Edge |
| Ruellia humilis | Hairy Ruellia | Edge |
| Ruellia strepens | Wild Petunia | Edge |
| Rumex altissimus | Pale Dock | Prairie |
| RUMEX CRISPUS | Curly Dock | Prairie,Edge |


| Sanguinaria canadensis | Bloodroot | Woodland |
| :---: | :---: | :---: |
| Sanicula canadensis | Black Snakeroot | Woodland |
| Sanicula odorata | Black Snakeroot | Woodland |
| Sassafras albidum | Sassafras | Edge |
| Scuttelaria incana | Downy Skullcap | Woodland,Edge |
| Senna marilandica | Maryland Senna | Prairie,Woodland,Edge |
| Sicyos angulatus | Bur Cucumber | Prairie,Woodland,Edge |
| Silene regia | Royal Catchfly | Prairie |
| Silphium integrifolium | Rosinweed | Prairie |
| Silphium laciniatum | Compass Plant | Prairie |
| Silphium perfoliatum | Cup Plant | Prairie,Edge |
| Sisyrinchium angustifolium | Pointed Blue-Eyed Grass | Edge |
| Sium suave | Water Parsnip | Prairie,Edge |
| Solanum carolinense | Horse Nettle | Prairie,Edge |
| Solidago altissima | Tall Goldenrod | Prairie,Edge |
| Solidago flexicaulis | Zigzag Goldenrod | Woodland |
| Solidago sp. | Goldenrod | Prairie,Woodland,Edge |
| Staphylea trifolia | American Bladdernut | Woodland |
| STELLARIA GRAMINEA | Common Stitchwort | Prairie,Edge |
| STELLARIA MEDIA | Common Chickweed | Woodland |
| Strophostyles helvola | Trailing Wild Bean / Amberique Bean | Prairie |
| Strophostyles leiosperma | Trailing Wild Bean | Prairie,Edge |
| Stylophorum diphyllum | Celandine Poppy | Woodland |
| Symphyotrichum lanceolatum | Panicled Aster | Prairie,Woodland,Edge |
| Symphyotrichum lateriflorum | Side-Flowering Aster | Prairie,Woodland,Edge |
| Symphyotrichum novae-angliae | New England Aster | Prairie,Edge |
| Symphyotrichum pilosum | Hairy Aster | Prairie,Woodland,Edge |
| Symphyotrichum praealtum | Willow Aster | Prairie,Edge |
| TARAXACUM OFFICINALE | Common Dandelion | Prairie,Woodland,Edge |
| Teucrium canadense | Germander | Prairie,Woodland,Edge |
| Thalictrum revolutum | Waxy Meadow Rue | Prairie |
| Tradescantia ohiensis | Common Spiderwort | Prairie,Woodland |
| Tradescantia subaspera | Broad-Leaved Spiderwort / Zigzag Spiderwort | Prairie,Woodland |
| Tradescantia virginiana | Virginia Spiderwort | Prairie |
| TRIFOLIUM PRATENSE | Red Clover | Prairie,Edge |
| TRIFOLIUM REPENS | White Clover | Prairie,Woodland,Edge |


| Trillium recurvatum | Purple Trillium | Prairie,Woodland |
| :--- | :--- | :--- |
| Ulmus rubra | Slippery Elm | Woodland |
| Veratrum virginicum | Virginia Bunchflower | Prairie |
| VERBASCUM BLATTARIA | Moth Mullein | Prairie |
| Verbena urticifolia | White Vervain | Prairie,Woodland,Edge |
| Verbesina alternifolia | Wingstem | Prairie,Woodland,Edge |
| Vernonia baldwinii | Western Ironweed | Prairie,Edge |
| Vernonia fasciculata | Common Ironweed | Woodland |
| Vernonia gigantea | Missouri Ironweed | Woodland |
| Vernonia missurica | Corn Speedwell | Prairie,Edge |
| Veronica arvensis | Thyme-leaf Speedwell | Prairie |
| VERONICA SERPYLLIFOLIA | Culver's Root | Prairie,Woodland,Edge |
| Veronicastrum virginicum | Common Vetch | Prairie,Edge |
| VICIA SATIVA | Hairy Vetch | Prairie,Edge |
| VICIA VILLOSA | Periwinkle | Prairie |
| VINCA MINOR | Bird-Foot Violet | Prairie,Woodland,Edge |
| Viola pedata | Hairy Wood Violet | Woodland |
| Viola sororia | Pale Violet | Prairie,Woodland,Edge |
| Viola striata | Heart-Leaved Meadow Parsnip |  |
| Zizia aptera | Golden Alexander | Woodland |
|  |  | Prea |

Figure 1. chart showing the relative bloom period for each species found in the prairie transects.


Figure 2. chart showing the relative bloom period for each species found in the woodland transects.


Figure 3. chart showing the relative bloom period for each species found along the edge transects.

PRAIRIE-WOODED EDGE FLOWER OBSERVATIONS - 2019


Figure 4. Graph of species observations by transect over time. Each line tracks the number of observations on each transect over the course of the phenology season.


