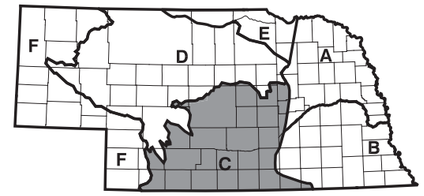
Nebraska Department of Roads

Plan for the Roadside Environment

Landscape Region C



NEBRASKA STATE PARK AREAS

- 34. MORMON ISLAND / Grand Island Interchange, I-80, Exit 312
- 36. CRYSTAL LAKE / 1½ mi. N. Ayr, US-281
- 37. NORTH LOUP / 4 mi. N. St. Paul, US-281
- 39. CHEYENNE / Wood River Interchange, I-80, Exit 300
- 40. WAR AXE / Shelton Interchange, I-80, Exit 291
- 41. WINDMILL / Gibbon Interchange, I-80, Exit 285
- 42. SHERMAN RESERVOIR / 4 mi. E., 1 mi. N. Loup City, N-92
- 43. BOWMAN LAKE / ½ mi. W. Loup City, N-92 or 10
- 44. FORT KEARNY SRA / ¼ mi. E., 1 mi. N. Fort Kearny SHP
- 45. FORT KEARNY SHP / 2 mi. S., N-44, 4 mi. E., L-50A, Kearney
- 47. FORT HARTSUFF / 1½ mi. N., ¾ mi. W., 1 mi. N. Elyria
- 49. UNION PACIFIC / Odessa Interchange, I-80, Exit 263
- 50. SANDY CHANNEL / 3½ mi. S. Elm Creek (US-183)
- 51. VICTORIA SPRINGS / 7 mi. E. Anselmo, N-2/S-21A
- 54. JOHNSON LAKE / 7 mi. S. Lexington, US-283
- 55. GALLAGHER CANYON / 10 mi. S. Cozad, 2 mi. E., 1 mi. N., 1 mi. W., N-21
- 57. MEDICINE CREEK RESERVOIR / 2 mi. W., 7 mi. N. Cambridge, US-34
- 58. ARNOLD LAKE / 1 mi. S. Arnold, N-40 or 92
- 59. RED WILLOW RESERVOIR / 11 mi. N. McCook, US-83
- 65. SWANSON RESERVOIR / 2 mi. W. Trenton, US-34

FEDERAL CAMPING AREAS

- 83. HARLAN CO. RESERVOIR / Republican City, US-136 or 183

N

LEGEND

- Rulo Bluffs ..... Biologically Unique Landscape (From the Nebraska Natural Legacy Project)
- GRAND ISLAND .... Major Communities
- Heritage Highway .... Scenic Byway
- ..... Bike Trail
- ..... Railroad
- 5 .... Mileage Numbers
- SP .... State Wildlife Management Area
- ..... Region Boundary

Boundaries (indicated on map) - Landscape Region C encompasses the south central part of Nebraska and includes all or part of 31 counties: Hitchcock, Hayes, Red Willow, Frontier, Lincoln, Custer, Dawson, Gosper, Furnas, Harlan, Phelps, Kearney, Franklin, Buffalo, Sherman, Valley, Greeley, Howard, Hall, Adams, Webster, Nuckolls, Merrick, Nance, Boone, and small portions of Hamilton, Logan, Loup, Garfield, Wheeler, and Thayer Counties. Portions of NDOR Districts 4, 6, and 7 comprise this region.

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Description – Region “C”

Environmental Components

- **Climate**
  - Plant hardiness zone – This region is primarily within Zone 5 of the USDA Plant Material Hardiness Zone Map with a range of annual minimum temperature between -10 to -20 degrees Fahrenheit.
  - Annual rainfall – Considered semi-arid, precipitation ranges from 28 inches per year in the east portion of the region to less than 20 inches in the west.
- **Landform** – The topography consists of nearly level broad plains in the south central part of the Region, gently rolling hills in the north central part of the region, and steep slopes with deeply incised drainages in the southwest portion. The elevation gradually increases from east to west ranging from 1,650 feet to 3,000 feet above sea level. This region is bisected by the broad flat floodplain of the Platte River.
- **General soil types** – Region “C” is characterized by deep loess soils north and south of the Platte River. The loess mantle is deeper north of the river and calcareous with a higher pH than soils south of the river. Some of the state’s most erodible soils form the slopes north of the river. The rainwater basin south of the river is poorly designed. The Platte River valley is a poorly drained mix of sand and silt.
- **Hydrology**

  The Ogallala aquifer underlies a large portion of Landscape Region “C”. Alluvial aquifers are present along rivers and streams. These aquifers are recharged during high flows and contribute water to streams and rivers during low hydro periods. Artificial groundwater mounds have developed near the surface alongside irrigation delivery channels and downstream of irrigation reservoirs.

  - Rivers and streams – The Platte River bisects Landscape Region “C”, running from west to east. The Republican River is the primary river in the southern half of the region. A small portion of the Big and Little Blue Rivers occur in the southeast corner of this region.

    The South Loup, Middle Loup, and North Loup Rivers flow through the northern half of Landscape Region “C”. They derive their flow from groundwater discharge out of the southern Sandhills which provide a significant source of summer flow for the Platte River where they meet. The Wood River is also in this part of the region.
  - Wetlands and Lakes – Rainwater basins south of the Platte River in this region and in Region “B” to the east, are significant for waterfowl needs. Central Table Playa wetlands are found north of the Platte River, especially in Custer County. River floodplains provide extensive subirrigated wet meadows and other semi-permanent wetlands. Some Sandhills wetlands are found in the sandy areas close to the Platte and Loup Rivers and are formed where groundwater, intersects the surface.

- **Plant Communities**

  - Herbaceous – This landscape region transitions from the tallgrass prairie on the east to the shortgrass prairie of the west. Prairie hilltops support drought tolerant short grasses such as blue grama and buffalograss, side slopes with species such as side-oats grama, little bluestem, western wheatgrass and sand dropseed. Lower slopes and valleys support tallgrass species such as big bluestem, Indiangrass, switchgrass and Canada wildrye. Hundreds of forbs can occur on good quality sites. Species such as prairie clover, Illinois bundle flower, deer vetch, lead plant, prairie coneflower, stiff sunflower and blazing star are notable examples of these forbs.

    Wet meadows include species such as woolly sedge, spike rush, and prairie cordgrass. Playa wetland contain river bulrush and flatsedge. Riparian wetlands may have an understory of plants such as switchgrass, scouring rush, and bedstraw.

  - Woody – Most tree and shrub areas are found along the watercourses as riparian forest. Cottonwood, green ash, hackberry, and red cedar are the primary trees with shrubs such as roughleaf dogwood, false indigo, and sandbar willow for understory. The eastern edge of the region still has some stands of native bur oak and black walnut. Planted woodlands and shelterbelt plantings are common in the more intensely farmed areas. Eastern red cedar is becoming invasive in some areas, especially prairie, pasture, and rangeland areas in the western part of this region. Control of seed-producing trees may be necessary in these areas.

  - Invasive plants – Bromegrass, Canada thistle, leafy spurge and red cedar are examples of invasive species steadily encroaching on prairie remnants, pastures and the roadsides. Phragmities, tamarix, and Reed's canarygrass are examples of the invasives threatening the stream and river courses, as well as wetlands.

  - Protected plants – The following plants are listed in this region as threatened or endangered by state and/or federal agencies:

    Western Prairie Fringed Orchid (Platanthera praeclara)
    Small White Lady's-Slipper Orchid (Cypripedium candidum)

- **Animals** – The following species are listed in this region, as threatened or endangered by state and/or federal agencies:

River Otter (Lutra canadensis)
Swift Fox (Vulpes velox)
American Burying Beetle (Nicrophorus americanus)
Bald Eagle (Haliaeetus leucocephalus)
Interior Least Tern (Sterna antillarum athalassos)
Whooping Crane (Grus americana)
Piping Plover (Charadrius melodus)

- **Biologically Unique Landscapes and Habitats** (as defined in the Nebraska Natural Legacy Project) are areas of the state that have been identified as key habitats that offer the highest likelihood of persistence over the long term. These areas were selected based on known occurrences of ecological communities and at-risk species and offer the best opportunity for conserving the full array of biological diversity in Nebraska. Disturbance to these areas should be minimized. Habitat preservation in the landscape design is highly desirable. Opportunities to enhance and restore critical habitat should be considered in these areas.

  Listed here are the Biologically Unique Landscapes that occur in this landscape region:

  Central Loess Hills – occurs primarily in Custer County extending to Sherman and Dawson County; Central Platte River – includes the river channel and floodplain of the Platte River in the landscape region; Loess Canyons – occur in the southeast portion of Lincoln County; Lower Loup Rivers – the lower reaches of the Middle Loup River, North Loup River, and the Loup River in the northeast portion of Landscape Region "C"; Platte Confluence – the eastern portion of this area occurs in Lincoln County and includes the land between the North Platte and South Platte Rivers; Rainwater Basin-West – occurs in south central part of this region including primarily portions of Gosper, Phelps, Kearney, and Franklin Counties.

Sociological Components

- **Area history** – This mixed grass prairie of Landscape Region "C" transitions between tallgrass prairie to the east and short grass prairie to the west and Sandhills to the north. European settlement was sparse until the late 1860's with the population rising and falling through periods of adequate rainfall and drought. Center pivot irrigation from the 1970's increased the acreage in crop production, currently about two-thirds of the region, with the remainder in grassland.

- **Economic features** – Crop production is the primary economic activity along with other agricultural related segments. Crane viewing and the beginning development of various outdoor recreational opportunities is an emerging economic feature.
- **Land use/Ag type** – Two-thirds of the land in this region is in crop production with most of the remaining lands in grasslands for livestock. The trend is for fewer but larger farms. Federal lands in this region include: Ft. McPherson National Cemetery in Lincoln County.
- **Major communities** – Grand Island, Kearney, Hastings, Lexington, McCook, and Holdrege.

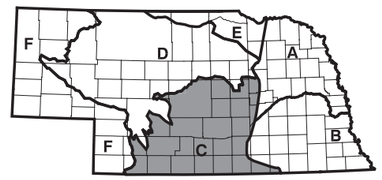
- **Transportation**

  Major highways – portions of US-6 and 34, I-80, N-2, US-83, US-183, US-281.

  Railroads – Nebraska Kansas Colorado Railnet, Burlington Northern Santa Fe Railway, Union Pacific.

  Scenic highways – Heritage Highway US-136 from Edison in Furnas County, east into Landscape Region "B"; Lincoln Highway, US-30 across the entire state. Sandhills Journey, N-2 from Grand Island to Alliance in Landscape Region "D"; and Loup Rivers Byway, N-11/N-91 from Wood River to Dunning in Region "D".

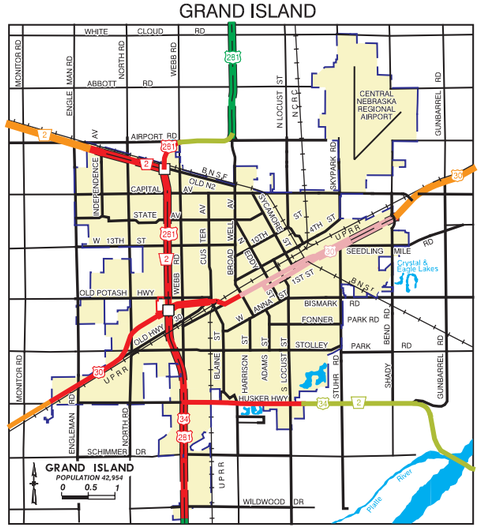
Landscape Region C Corridor Classification Map



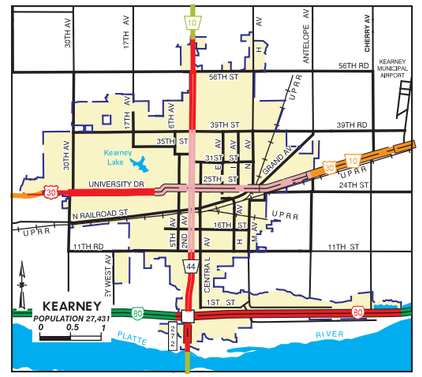
LEGEND

- .... Metropolitan Corridor
- .... Community Center Corridor
- .... Community Edge Corridor
- .... Rural Interstate/Expressway Corridor
- .... Rural Highway Corridor
- .... Scenic Corridor
- .... Bike Trail
- .... Railroad
- .... Region Boundary

GRAND ISLAND

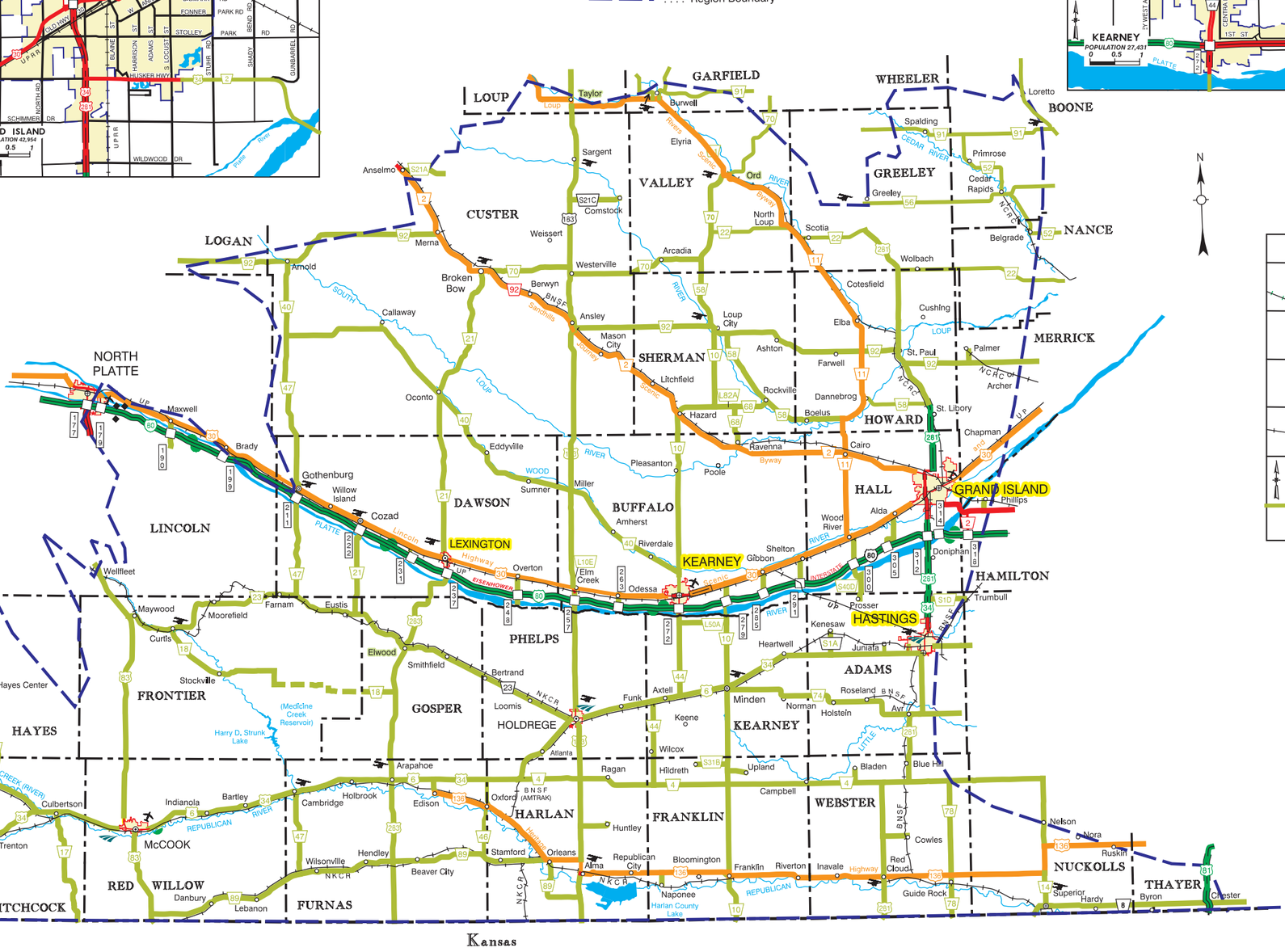


KEARNEY



HASTINGS

LEXINGTON



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Corridor Objectives – Landscape Region "C"

Landscape Region "C" contains a large area of Biologically Unique Landscapes that will influence construction and landscape treatments in this corridor.

Metropolitan Corridor

This corridor type is not used in this region at this time.

Community Edge and Center Corridors

Landscape Region "C" presents a great diversity of communities for these corridor types. The potential for future regulation of water quality from stormwater runoff may be a concern. Traffic calming and maintaining community identity are primary corridor concerns.

Rural Interstate/Expressway Corridor

Within Landscape Region "C" this corridor type runs parallel to the Platte River through a portion of the river that is the primary staging area of the sandhills crane migration. The central Platte River is designated as critical habitat for the threatened and endangered species of whooping cranes and piping plover in this region. This corridor remains the primary long distance and higher travel speed route.

Rural Highway Corridor

Much of the area adjacent to this corridor is crop ground, range land or pasture. The biologically unique landscape described as the Rainwater Basin West (in the southern part of this region) contains scattered wetlands identified as waterfowl habitat important to the annual spring migration of ducks, geese and shorebirds and other species. A second biologically unique landscape described as the Central Loess Hills (in the north central part of this region) is mixed grass prairie with scattered playa wetlands that are used by the whooping cranes during migration. Highways going through these landscapes need to recognize these issues. This highway corridor is also important for wildlife as a passage between these areas and areas of heavier crop use as well as providing some habitat. Selected plantings may be used to improve safer movement for specific species and keep them away from the roadways. Techniques to help prevent monotony and control blowing snow are important in this region for this corridor type.

Scenic Corridor

Within Landscape Region "C" there are portions of 4 designated scenic highways. Each of these routes has a unique character to be maintained

The overriding landscape objective in this corridor type is to preserve the existing views and scenic qualities that brought rise to the scenic designation. All work within these corridors should be in context with the adjacent surroundings.

Screening of objectionable views needs to be strongly considered in this corridor type, along with the framing of special views.

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Typical Plant Species for Use in Landscape Region "C"

The listings to follow are recommendations of native species of plant material for use in this landscape region. This list is expected to broaden as the demand for additional native species increases in the future. Micro-climates within Region "C" strongly influence appropriate locations for shrubs and trees.

Shrubs

Botanical Name	Common Name
Amelanchier alnifolia	Saskatoon Serviceberry
Amorpha fruticosa	False Indigo
*Cornus racemosa**	Gray Dogwood
Cornus sericea	Redosier Dogwood
Juniperus communis	Common Juniper
Prunus americana	American Plum
Prunus besseyi	Western Sandcherry
Prunus virginiana	Common Chokecherry
Rhus trilobata	Skunkbush Sumac
Ribes aureum	Golden Current
Ribes odoratum	Clove Current
Rosa arkansana	Arkansas Rose
Rosa woodsii	Woods Rose
Salix exigua	Sandbar Willow
*Sambucus canadensis**	Elderberry
Shepherdia argentea	Silver Buffaloberry
*Symphoricarpos albus**	Common Snowberry
Symphoricarpos occidentalis	Western Snowberry
*Symphoricarpos orbiculatus**	Coralberry
*Viburnum lentago**	Nannyberry Viburnum

*Indicates limited to very eastern part of Region "C"

Trees

Botanical Name	Common Name
Acer negundo	Boxelder
*Acer saccharinum**	Silver Maple
Celtis occidentalis	Hackberry
Fraxinus pennsylvanica	Green Ash
Gleditsia tricanthos (limited use)*	Honeylocust
*Gymnocladus dioicus**	Kentucky Coffeetree
*Juglans nigra**	Black Walnut
Populus deltoides	Eastern Cottonwood
Populus tremuloides	Quaking Aspen
Quercus macrocarpa	Bur Oak
Salix amygdeloides	Peach Leaf Willow
*Salix nigra**	Black Willow
*Tilia americana**	American Linden
Ulmus americana	American Elm

*Indicates limited to very eastern part of Region "C"

Grasses

Botanical Name	Common Name
Andropogon gerardii	Big Bluestem
Bouteloua curtipendula	Sideoats Grama
Bouteloua gracilis	Blue Grama
Buchloe dactyloides	Buffalograss
Calamagrostis canadensis	Bluejoint
Calamovilfa longifolia	Prairie Sandreed
Elymus canadensis	Canada Wildrye
Elymus lanceolatus	Thickspike
Elymus trachycaulus	Wheatgrass
Elymus virginicus	Virginia Wildrye
Koeleria macrantha	Prairie Junegrass
Panicum virgatum	Switchgrass
Pascopyrum smithii	Western Wheatgrass
Schizachyrium scoparium	Little Bluestem
Sorghastrum nutans	Indiangrass
Spartina pectinata	Prairie Cordgrass

Sedges

Botanical Name	Common Name
Carex brevior	Fescue Sedge
Carex gravida	Heavy Sedge

Legumes

Botanical Name	Common Name
Amorpha canescens	Leadplant
Astragalus canadensis	Canadian Milkvetch
*Chamaecrista fasciculata**	Partridge Pea
Dalea candida	White Prairie Clover
Dalea purpurea	Purple Prairie Clover
Desmanthus illinoensis	Illinois Bundleflower
Lespedeza capitata	Roundhead Lespedeza

*No farther west than Buffalo County

Wildflowers

Botanical Name	Common Name
Achillea millefolium	Yarrow
Anemone canadensis	Canada Anemone
Antennaria parvifolia	Pussy-toes
Asclepias tuberosa	Butterfly Milkweed
Aster novae-angliae	New England Aster
Callirhoe involucrata	Purple Poppy Mallow
Cleome serrulata	Rocky Mountain Bee
Echinacea angustifolia	Black Samson
Gaillardia pulchella	Indian Blanket
Gaura coccinea	Scarlet Gaura
Helianthus maximiliani	Maximilian Sunflower
Helianthus pauciflorus	Stiff Sunflower
Liatris lancifolia	Lanceleaf Blazing Star
Liatris punctata	Dotted Blazing Star
Liatris pychnostachya	Thickspike Gayfeather
Linum lewisii	Blue Flax
Monarda fistulosa	Wild Bergamot
Oligoneuron rigidum	Stiff Goldenrod
Penstemon grandiflorus	Shell-leaf Penstemon
Ratibida columnifera	Upright Prairie
Ratibida columnifera	Red Hat
Rosa arkansana	Prairie Rose
Rudbeckia hirta	Black-eyed Susan
Rudbeckia laciniata	Golden Glow
Senecio plattensis	Prairie Ragwort
Solidago missouriensis	Missouri Goldenrod
Sphaeralcea coccinea	Scarlet Globemallow
Tradescantia bracteata	Long Bract Spiderwort
Verbena hastata	Blue Vervain
Vernonia baldwinii	Western Ironweed

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