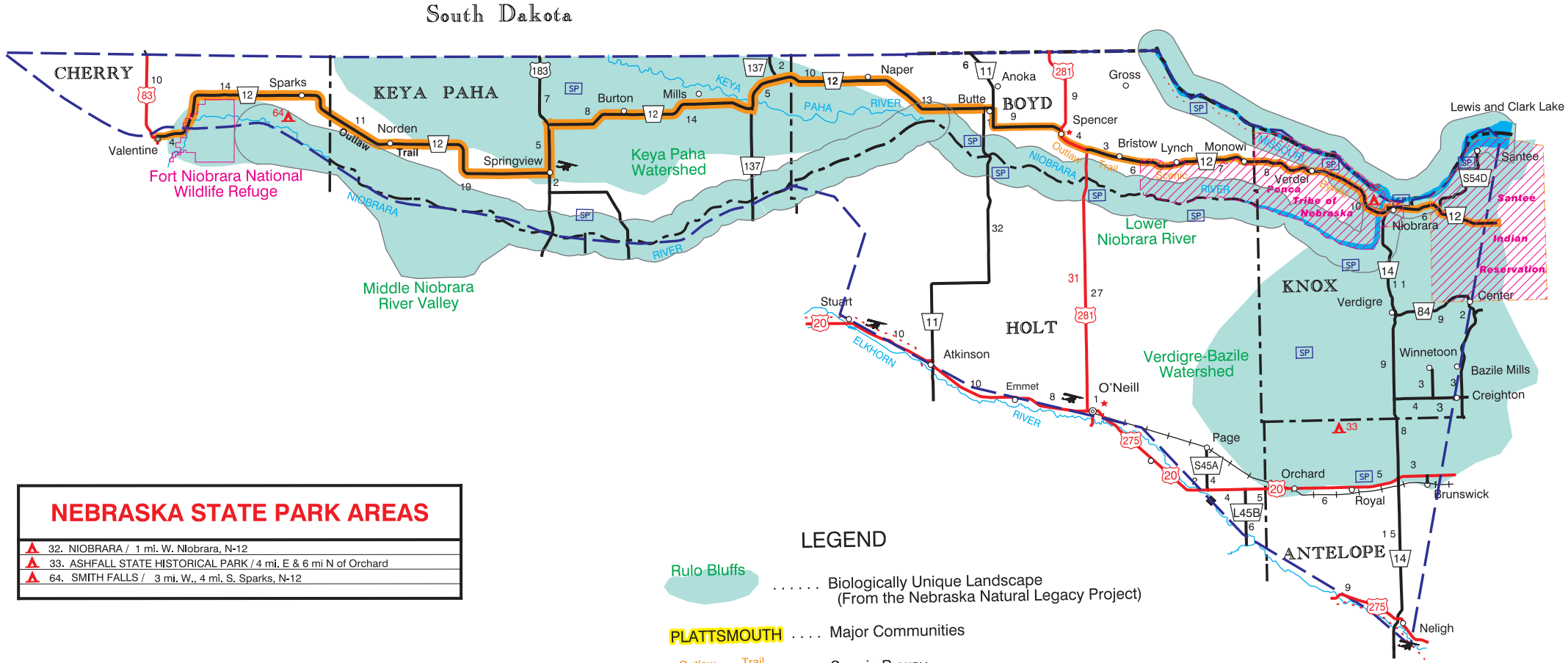
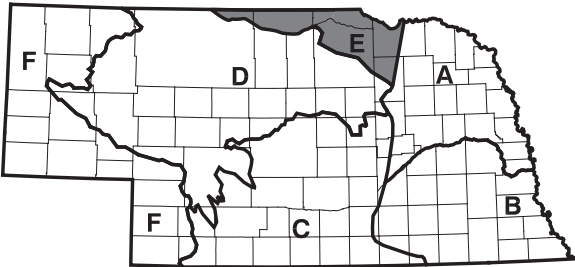




Nebraska Department of Roads

PLAN FOR THE ROADSIDE ENVIRONMENT

Landscape Region E



NEBRASKA STATE PARK AREAS	
▲	32. NIOBRARA / 1 mi. W. Niobrara, N-12
▲	33. ASHFALL STATE HISTORICAL PARK / 4 mi. E. & 6 mi N of Orchard
▲	64. SMITH FALLS / 3 mi. W., 4 mi. S. Sparks, N-12

- LEGEND**
- Rulo Bluffs
 - Biologically Unique Landscape (From the Nebraska Natural Legacy Project)
 - PLATTSMOUTH Major Communities
 - Outlaw Trail Scenic Byway
 - Bike Trail
 - Railroad
 - 5 Mileage Numbers
 - SP State Wildlife Management Area
 - - - - - Region Boundary



Boundaries (indicated on map) - Landscape Region E is in north central Nebraska and includes all or part of six counties: Cherry, Keya Paha, Boyd, Holt, Antelope, and Knox. The major portion of this region is in NDOR District 8 with the eastern portion in the northwest part of NDOR District 3.



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Description – Region “E”

Environmental Components

- **Climate**
 - Plant hardiness zone – 4b of the USDA Plant Materials Hardiness Zone Map with a range of annual minimum temperatures between -20 to -25 degrees Fahrenheit.
 - Annual rainfall – precipitation ranges from 24 inches in the east to less than 20 inches in the west.
- **Landform** – A combination of broad plains in the west and south with desiccated plains in the center and an area of bluffs and escarpments along the Niobrara River which bisects this region.
- **General soil types** – Region “E” is transitional area from the deep silt loams of Region “A” to the sandy soils of Region “D”.

North of the Niobrara River, soils tend to be silt loam and moderately well-drained near the Missouri confluence, but to the west, they tend to be shallow sands and silt. Weathered sandstone is found in the uplands. Immediately south of the Niobrara are clay soils weathered from shale that is moderately to poorly drained and less stable than soils further south and east where mixed loam is found over sand and gravel.

- **Hydrology**
 - Rivers and streams – The Missouri River forms the northeast border of this region from Lewis and Clark Lake to the South Dakota border. The portion from Niobrara to the South Dakota border is part of the Wild and Scenic River system. The Niobrara River forms the southern border of the west part of Landscape Region “E” and bisects the eastern half of the region. Two segments of the Niobrara are part of the Wild and Scenic River system. These are the segment from the Missouri River to the Boyd/Knox County line and the segment from approximately the Boyd/Keya Paha County line west to Valentine at the Borman Bridge. Other rivers in the region include the Keya Paha River from the South Dakota border into the Niobrara River and the Elkhorn River forming the southern border for the eastern half of the region.
 - Wetlands and Lakes – Wet meadows and wet prairies occur along the river courses.



- **Plant Communities**

- Herbaceous– This landscape region features mixed grass prairie and is a transition zone between tallgrass prairie to the east and Sandhills prairie to the south and short grass prairie to the west. Prairie hilltops may be dominated by drought-resistant shortgrass species such as blue grama and buffalograss. Sideslopes in many areas contain grasses such as side-oats grama, little bluestem, western wheatgrass, and sand dropseed. Some of the tallgrass prairie species occur on lower slopes and valleys such as big bluestem, indiagrass, switchgrass, Canada wildrye. Many forbs can be mixed in with these grasses.
- Woody – Woody plants occur along watercourses as riparian forest. Cottonwood, green ash, hackberry, willows, and boxelder may be in the floodplains. Shrubs may include false indigo and rough leaf dogwood. Eastern red cedar is becoming invasive in some areas, especially prairie, pasture, and rangeland areas. Control of seed-producing trees may be necessary in these areas.

The middle Niobrara River valley contains the largest concentration of woodlands in the Sandhills. Eastern deciduous woodlands containing bur oak, basswood, black walnut, and green ash grow on south-facing bluffs. Cool, moist, spring-fed canyons along the south bluff contain glacial relict woodlands dominated by paper birch and quaking aspen, trees characteristic of more northern environments. The steep, rocky, north river bluff supports ponderosa pine dominated woodlands characteristic of the Rocky Mountains. Both Sandhills prairie and northern mixed grass prairie are also found along the bluffs. The Middle Niobrara River Valley has been referred to as a biological crossroads because of the diverse mixture of plant and animal species that are found here.



- Invasive plants – Bromegrass, Canada thistle, leafy spurge and red cedar are examples of invasive species steadily encroaching on prairie remnants, pastures and the roadsides. Phragmites, tamarix, and Reed’s canarygrass are examples of the invasives threatening the stream and river courses, as well as wetlands.
- Protected plants – The following plant is listed in this region as threatened by state and federal agencies:

Small White Lady’s-Slipper Orchid (*Cypripedium candidum*)

Western Prairie Fringed Orchid (*Platanthera praeclara*)

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

American Burying Beetle
(*Nicrophorus americanus*)
Northern Redbelly Dace
(*Phoxinus eos*)
Blacknose Shiner
(*Notropis heteropsis*)
Finescale Dace
(*Phoxinus neogaeus*)

Whooping Crane (*Grus americana*)
Bald Eagle (*Haliaeetus leucocephalus*)
Piping Plover (*Charadrius melodus*)
Interior Least Tern
(*Sterna antillarum athalassos*)
Pallid Sturgeon (*Scaphirhynchus albus*)
Lake Sturgeon (*Acipenser fulvescens*)
Black-Footed Ferret (*Mustela nigripes*)

- **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 that they will persist 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 of 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:

Keya Paha Watershed – includes the watershed of the Keya Paha River in Holt, Rock, and Brown Counties; Middle Niobrara River Valley – includes a 76-mile reach of the river in Cherry, Keya Paha, Rock, and Brown Counties, designated as a National Wild and Scenic River; Lower Niobrara River – includes the Niobrara River channel and a two-mile wide buffer on each side from central Brown County to its confluence with the Missouri River; Verdigre and Bazile Creek Watershed occupies portions of Knox, Holt, and Antelope Counties.

Sociological Components

- **Area history** – An area of mixed grass prairie, it is a transitional region between the tallgrass and shortgrass prairies. This transition applies to the Niobrara River valley with the meeting of eastern, western, and northern flora and fauna.
- **Economic features** – Crop production and cattle are the primary economic features. Outdoor recreation, especially along the Niobrara, has a potential to become an economic feature in this region.
- **Land use / Ag type** – Crop production and grasslands for livestock.

Federal lands in this region include: a portion of Fort Niobrara National Wildlife Refuge in Keya Paha and Cherry Counties.

- **Major communities** – O’Neill, Springview, Neligh, and Niobrara.



- **Transportation**

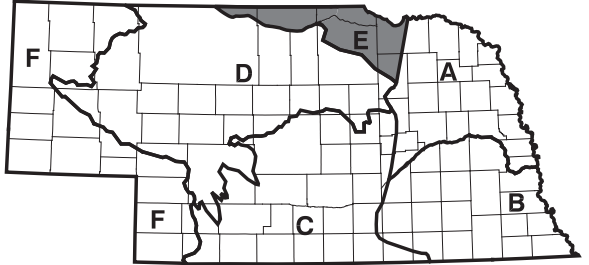
Major highways – portions of US-20; N-12, US-183; US-281, N-14.

Railroads – Nebraska Northeastern Railway.

Scenic highways – “Outlaw Trail Scenic Byway” – N-12 from Valentine East to South Sioux City in Landscape Region “A”.

Bike routes – Cowboy Trail, several portions from Stuart going east and exiting Landscape Region “E” near Neligh.

Landscape Region E 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



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Corridor Objectives – Landscape Region “E”

A large portion of Landscape Region “E” is contained within Biologically Unique Landscapes that will influence construction and landscape treatments in this corridor.

The Metropolitan Corridor

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

Community Edge and Center Corridors

The communities in Landscape Region “E” are primarily smaller and often have less defined edge and center areas. Traffic calming should be a major consideration along with maintaining and enhancing the community’s unique identity.

Rural Interstate/Expressway Corridor

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

Rural Highway Corridor

Much of the area adjacent to this corridor is range land or pasture with limited crop ground. Almost every highway in this corridor type in this region goes through a biologically unique landscape. This highway corridor is also important for wildlife (plant and animal) as a passage between these biologically unique landscapes and secondarily as habitat itself. Techniques to help prevent monotony and control of blowing snow are both very important in this region for this corridor. The Middle Niobrara River Valley is crossed by highways going between in this region and Landscape Region “D”. This portion of the river is designated as a National Wild and Scenic River and also recognized as the biological crossroads for the continent, affording many one of a kind occurrences that should be understood and protected when any work is planned in this area.

Scenic Corridor

Within Landscape Region “E” there is one designated scenic highway.

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 this corridor 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 “E”

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

Shrubs

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

Trees

Botanical Name	Common Name
<i>Acer negundo</i>	Boxelder
<i>Acer saccharinum</i>	Silver Maple
<i>Betula papyrifera</i> ○	Paper Birch
<i>Celtis occidentalis</i>	Hackberry
<i>Fraxinus pennsylvanica</i>	Green Ash
<i>Gleditsia triacanthos (limited use)</i>	Honeylocust
<i>Gymnocladus dioica</i>	Kentucky Coffeetree
<i>Juglans nigra</i>	Black Walnut
<i>Pinus ponderosa</i>	Ponderosa Pine
<i>Populus deltoides</i>	Eastern Cottonwood
<i>Populus tremuloides</i>	Quaking Aspen
<i>Quercus macrocarpa</i>	Bur Oak
<i>Salix amygdaloides</i>	Peach Leaf Willow
<i>Salix nigra</i> *	Black Willow
<i>Tilia americana</i> *	American Linden
<i>Ulmus americana</i>	American Elm

○ Species found along Niobrara Valley, meeting of east and west continental plant materials

* Indicates limited to very eastern part of Region “E”

Grasses

Botanical Name	Common Name
<i>Andropogon gerardii</i>	Big Bluestem
<i>Andropogon hallii</i>	Sand Bluestem
<i>Bouteloua curtipendula</i>	Sideoats Grama
<i>Bouteloua gracilis</i>	Blue Grama
<i>Buchloe dactyloides</i>	Buffalograss
<i>Calamovilfa longifolia</i>	Prairie Sandreed
<i>Elymus canadensis</i>	Canada Wildrye
<i>Elymus trachycaulus</i>	Slender Wheatgrass
<i>Koeleria macrantha</i>	Prairie Junegrass
<i>Nassella viridula</i>	Green Needlegrass
<i>Panicum virgatum</i>	Switchgrass
<i>Pascopyrum smithii</i>	Western Wheatgrass
<i>Schizachyrium scoparium</i>	Little Bluestem
<i>Sorghastrum nutans</i>	Indiangrass
<i>Spartina pectinata</i>	Prairie Cordgrass

Sedges

Botanical Name	Common Name
<i>Carex brevior</i>	Fescue Sedge
<i>Carex gravida</i>	Heavy Sedge

Legumes

Botanical Name	Common Name
<i>Amorpha canescens</i>	Leadplant
<i>Astragalus canadensis</i>	Canadian Milkvetch
<i>Chamaecrista fasciculata</i>	Partridge Pea
<i>Dalea candida</i>	White Prairie Clover
<i>Dalea purpurea</i>	Purple Prairie Clover
<i>Desmanthus illinoensis</i>	Illinois Bundleflower
<i>Lespedeza capitata</i>	Roundhead Lespedeza
<i>Psoralea spp.</i>	Scurfpea

Wildflowers

Botanical Name	Common Name
<i>Achillea millefolium</i>	Western Yarrow
<i>Anemone canadensis</i>	Canada Anemone
<i>Antennaria parvifolia</i> *	Pussy-toes
<i>Argemone polyanthemos</i>	Prickly Poppy
<i>Aster ericoides</i>	White Heath Aster
<i>Aster laevis</i>	Smooth Blue Aster
<i>Aster novae-angliae</i>	New England Aster
<i>Callirhoe involucrata</i>	Purple Poppy Mallow
<i>Cleome serrulata</i>	Rocky Mountain Bee Plant
<i>Echinacea angustifolia</i>	Black Samson

Wildflowers (*Continued*)

Botanical Name	Common Name
<i>Erysimum asperum</i>	Wallflower
<i>Gaillardia pulchella</i>	Indian Blanket Flower
<i>Gaura coccinea</i>	Scarlet Gaura
<i>Helianthus pauciflorus</i>	Stiff Sunflower
<i>Liatris lancifolia</i>	Lanceleaf Blazing Star
<i>Liatris punctata</i>	Dotted Blazing Star
<i>Liatris squarrosa</i>	Scaly Blazing Star
<i>Linum lewisii</i>	Blue Flax
<i>Monarda fistulosa</i>	Wild Bergamot
<i>Oligoneuron rigidum</i>	Stiff Goldenrod
<i>Penstemon grandiflorus</i>	Shell-leaf Penstemon
<i>Ratibida columnifera</i>	Upright Prairie Coneflower
<i>Ratibida columnifera, red</i>	Mexican Red Hat
<i>Rosa arkansana</i>	Prairie Rose
<i>Rudbeckia hirta</i>	Black-eyed Susan
<i>Senecio plattensis</i>	Prairie Ragwort
<i>Solidago missouriensis</i>	Missouri Goldenrod
<i>Sphaeralcea coccinea</i>	Scarlet Globemallow
<i>Tradescantia occidentalis</i>	Prairie Spiderwort
<i>Verbena hastata</i>	Blue Vervain

* or *Antennaria neglecta*



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