

## United States Department of Agriculture Natural Resources Conservation Service

### Ecological Site Description

**Site Type:** Rangeland

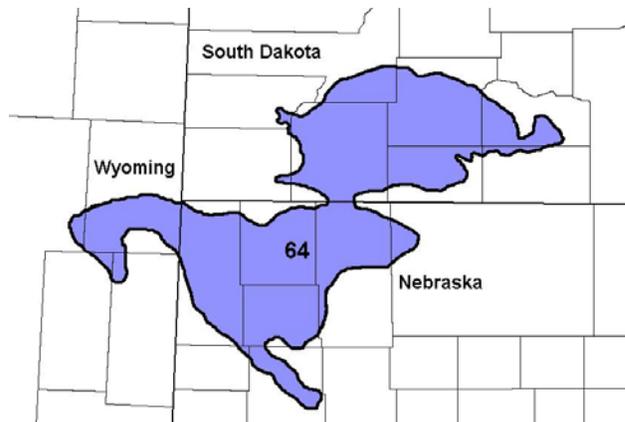
**Site Name:** Thin Breaks

**Site ID:** R064XY050NE

**Major Land Resource Area (MLRA):** 64 – Mixed Sandy and Silty Tableland

### Physiographic Features

This site occurs on steep side slopes of hills.



**Landform:** hill

**Aspect:** North to East

	<u>Minimum</u>	<u>Maximum</u>
<b>Elevation (feet):</b>	2,900	4,000
<b>Slope (percent):</b>	30	80
<b>Water Table Depth (inches):</b>	None	None
<b>Flooding:</b>		
<b>Frequency:</b>	None	None
<b>Duration:</b>	None	None
<b>Ponding:</b>		
<b>Depth (inches):</b>	None	None
<b>Frequency:</b>	None	None
<b>Duration:</b>	None	None
<b>Runoff Class:</b>	Low	Medium

### Climatic Features

MLRA 64 is considered to have a continental climate – cold winters and hot summers, low humidity, light rainfall, and much sunshine. Extremes in temperature may also abound. The climate is the result of this MLRA's location near the geographic center of North America. There are few natural barriers on the Northern Great Plains and air masses move freely across the plains and account for rapid changes in temperature.

Annual precipitation ranges from 14 to 20 inches per year. The normal average annual temperature is about 47°F. January is the coldest month with average temperatures ranging from about 21°F (Wood, South Dakota (SD)), to about 25°F (Hemingford, Nebraska (NE)). July is the warmest month with temperatures averaging from about 70°F (Keeline 3 W, Wyoming (WY)), to about 76°F (Wood, SD). The range of normal average monthly temperatures between the coldest and warmest months is about 55°F. This large annual range attests to the continental nature of this area's climate. Hourly winds average about 11 miles per hour (mph) annually, ranging from about 13 mph during the spring to about 10 mph during the summer. Daytime winds are generally stronger than nighttime and occasional strong storms may bring brief periods of high winds with gusts to more than 50 mph.

Growth of cool-season plants begins in early to mid-March slowing or ceasing in late June. Warm-season plants begin growth about mid-May and continue to early or mid-September. Greenup of cool-season plants may occur in September and October when adequate soil moisture is present.

	<u>Minimum</u>	<u>Maximum</u>
Frost-free period (days):	138	143
Freeze-free period (days):	161	163
Mean Annual Precipitation (inches):	14	20

**Average Monthly Precipitation (inches) and Temperature (°F):**

	Precip. Min.	Precip. Max	Temp. Min.	Temp. Max.
January	0.42	0.52	9.0	35.8
February	0.48	0.61	14.6	40.7
March	0.90	1.22	21.0	47.5
April	1.83	2.15	28.9	61.3
May	2.22	3.38	38.3	72.2
June	2.05	3.27	47.3	82.1
July	1.63	2.73	53.9	90.1
August	1.09	1.96	52.3	89.3
September	1.09	1.58	42.4	79.5
October	0.80	1.38	32.6	66.6
November	0.56	0.65	20.4	49.0
December	0.42	0.50	13.4	38.4

Climate Stations		Period	
Station ID	Location or Name	From	To
NE3755	Hemingford, NE	1964	1999
WY5085	Keeline 3 W, WY	1953	1986
SD9442	Wood, SD	1948	1999

For local climate stations that may be more representative, refer to <http://www.wcc.nrcs.usda.gov>.

**Riparian and Wetland Features**

No riparian areas or wetland features are directly associated with this site.

**Representative Soil Features**

The soils in this have very fine sandy loam to silt loam textured surface soils and slopes of 30 to 80 percent. The soils in this site are well to somewhat excessively drained and formed in soft siltstone or sandstone. The very fine sandy loam to silt loam surface layer is 2 to 10 inches thick. The soils have a moderate infiltration rate. This site can show slight to moderate evidence of rills and pedestalled plants. Water flow paths are broken, irregular in appearance, or discontinuous with few debris dams or vegetative barriers. The soil surface is relatively stable; however, natural erosion is not uncommon on steeper slopes and in areas with sparser vegetation. Subsurface soil layers are variably restrictive to water movement and root penetration.

These soils are mainly susceptible to water erosion. The hazard of water erosion increases on slopes greater than about 40 percent and on areas with sparse vegetation. The soil-water-plant relationship is strongly influenced by the cooler exposures and occasional additional moisture supplied by water seepage and springs emanating from rock fissures and soil/rock exposures.

More information can be found in the various soil survey reports. Contact the local United States Department of Agriculture (USDA) Service Center for soil survey reports that include more detail specific to your location.

**Parent Material Kind:** residuum, colluvium  
**Parent Material Origin:** sedimentary, unspecified  
**Surface Texture:** loam, silt loam, very fine sandy loam  
**Surface Texture Modifier:** none  
**Subsurface Texture Group:** loamy  
**Surface Fragments ≤3” (% Cover):** 0-10  
**Surface Fragments >3” (%Cover):** 0-20  
**Subsurface Fragments ≤3” (% Volume):** 5-45  
**Subsurface Fragments >3” (% Volume):** 5-25

	<u>Minimum</u>	<u>Maximum</u>
<b>Drainage Class:</b>	well	somewhat excessively
<b>Permeability Class:</b>	moderate	moderately rapid
<b>Depth (inches):</b>	10	40
<b>Electrical Conductivity (mmhos/cm)*:</b>	0	2
<b>Sodium Absorption Ratio*:</b>	0	0
<b>Soil Reaction (1:1 Water)*:</b>	6.6	8.4
<b>Soil Reaction (0.1M CaCl<sub>2</sub>)*:</b>	NA	NA
<b>Available Water Capacity (inches)*:</b>	2	5
<b>Calcium Carbonate Equivalent (percent)*:</b>	0	25

\*These attributes represent from 0-40 inches or to the first restrictive layer.

## **Plant Communities**

### **Ecological Dynamics of the Site**

This site developed under Northern Great Plains climatic conditions, light to severe grazing by bison and other large herbivores, sporadic natural or man-caused wildfire (often of light intensities), and other biotic and abiotic factors that typically influence soil/site development. Changes will occur in the plant communities due to short-term weather variations, impacts of native and/or exotic plant and animal species, and management actions. While the following plant community descriptions describe more typical transitions between communities that will occur, severe disturbances, such as periods of well below average precipitation, can cause significant shifts in plant communities and/or species composition.

The plant community upon which interpretations are primarily based is the Green Muhly/Bluestem, Shrubs, Trees Plant Community. It has been determined by study of rangeland relic areas which is apparently the current condition of most of where this site occurs.

This site evidently plays an important role in the pre-European development of associated woody draw plant communities. During favorable climatic conditions and the lack of fire in a given area, the woody species which dominate this site would tend to expand into the more favorable soils of the associated overflow sites. With extended dry periods or increased fire activity, the woody species would tend to be eliminated or greatly reduced in the associated overflow sites but would largely remain unaffected on this site. It is thought that the current extent of woody draws in the associated overflow sites is largely due to fire suppression efforts post-settlement.

Apparently, this site continues to develop largely through natural climatic cycles, and as a result of plant species that can tolerate cooler conditions and natural plant decadence and mortality. As this site was not previously described and little information has been collected, only the Green

Muhly/Bluestem, Shrubs, Trees Plant Community is characterized at this time. Therefore, no plant community diagram is included here. As more information is collected and the site studied further, more plant communities may be identified and described.

**Plant Community Composition and Group Annual Production**

COMMON/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Green Muhly/Bluestem, Shrubs, Trees		
			Group	lbs./acre	% Comp
<b>GRASSES &amp; GRASS-LIKES</b>				1250 - 1750	50 - 70
<b>TALL WARM-SEASON GRASSES</b>			<b>1</b>	<b>250 - 750</b>	<b>10 - 30</b>
green muhly	Muhlenbergia racemosa	MURA	1	125 - 500	5 - 20
big bluestem	Andropogon gerardii	ANGE	1	125 - 250	5 - 10
<b>MID WARM-SEASON GRASSES</b>			<b>2</b>	<b>250 - 500</b>	<b>10 - 20</b>
plains muhly	Muhlenbergia cuspidata	MUCU3	2	125 - 250	5 - 10
sideoats grama	Bouteloua curtipendula	BOCU	2	125 - 250	5 - 10
<b>TALL COOL-SEASON GRASSES</b>			<b>3</b>	<b>250 - 500</b>	<b>10 - 20</b>
Canada wildrye	Elymus canadensis	ELCA4	3	125 - 375	5 - 15
green needlegrass	Nassella viridula	NAVI4	3	50 - 250	2 - 10
porcupine grass	Hesperostipa spartea	HESP11	3	0 - 250	0 - 10
<b>OTHER NATIVE GRASSES &amp; GRASS-LIKES</b>			<b>4</b>	<b>125 - 375</b>	<b>5 - 15</b>
western wheatgrass	Pascopyrum smithii	PASM	4	0 - 125	0 - 5
thickspike wheatgrass	Elymus lanceolatus ssp. lanceolatus	ELLAL	4	0 - 125	0 - 5
little bluestem	Schizachyrium scoparium	SCSC	4	25 - 125	1 - 5
prairie dropseed	Sporobolus heterolepis	SPHE	4	0 - 125	0 - 5
blue grama	Bouteloua gracilis	BOGR2	4	0 - 75	0 - 3
prairie junegrass	Koeleria macrantha	KOMA	4	25 - 75	1 - 3
needleandthread	Hesperostipa comata ssp. comata	HECOC8	4	0 - 125	0 - 5
sedge	Carex spp.	CAREX	4	50 - 125	2 - 5
other perennial grasses		2GP	4	0 - 125	0 - 5
<b>FORBS</b>			<b>5</b>	<b>125 - 250</b>	<b>5 - 10</b>
American pasqueflower	Pulsatilla patens	PUPA5	5	0 - 50	0 - 2
anemone	Anemone spp.	ANEMO	5	0 - 25	0 - 1
cinquefoil	Potentilla spp.	POTEN	5	0 - 25	0 - 1
cudweed sagewort	Artemisia ludoviciana	ARLU	5	25 - 75	1 - 3
dotted gayfeather	Liatris punctata	LIPU	5	0 - 50	0 - 2
goldenrod	Solidago spp.	SOLID	5	0 - 75	0 - 3
heath aster	Symphotrichum ericoides	SYER	5	25 - 75	1 - 3
milkvetch	Astragalus spp.	ASTRA	5	25 - 50	1 - 2
northern bedstraw	Galium boreale	GABO2	5	0 - 25	0 - 1
penstemon	Penstemon spp.	PENST	5	0 - 50	0 - 2
prairie smoke	Geum triflorum	GETR	5	0 - 25	0 - 1
purple coneflower	Echinacea angustifolia	ECAN2	5	25 - 75	1 - 3
pussytoes	Antennaria spp.	ANTEN	5	0 - 25	0 - 1
scarlet gaura	Gaura coccinea	GACO5	5	0 - 25	0 - 1
serrate eveningprimrose	Calylophus serrulatus	CASE12	5	0 - 25	0 - 1
star lily	Leucocrocinum montanum	LEMO4	5	0 - 25	0 - 1
starry false Solomon's-seal	Maianthemum stellatum	MAST4	5	0 - 25	0 - 1
other perennial forbs		2FP	5	0 - 75	0 - 3
other annual forbs		2FA	5	0 - 50	0 - 2
<b>SHRUBS</b>			<b>6</b>	<b>125 - 500</b>	<b>5 - 20</b>
American plum	Prunus americana	PRAM	6	0 - 200	0 - 8
cactus	Opuntia spp.	OPUNT	6	0 - 25	0 - 1
creeping barberry	Mahonia repens	MARE11	6	0 - 25	0 - 1
currant	Ribes spp.	RIBES	6	0 - 125	0 - 5
fringed sagewort	Artemisia frigida	ARFR4	6	25 - 50	1 - 2
poison ivy	Toxicodendron rydbergii	TORY	6	0 - 50	0 - 2
rose	Rosa spp.	ROSA5	6	25 - 75	1 - 3
silver buffaloberry	Shepherdia argentea	SHAR	6	0 - 375	0 - 15
skunkbush sumac	Rhus trilobata	RHTR	6	0 - 125	0 - 5
small soapweed	Yucca glauca	YUGL	6	0 - 50	0 - 2
snowberry	Symphoricarpos spp.	SYMPH	6	0 - 250	0 - 10
other shrubs		2SHRUB	6	0 - 125	0 - 5
<b>TREES</b>			<b>7</b>	<b>0 - 500</b>	<b>0 - 20</b>
American elm	Ulmus americana	ULAM	7	0 - 125	0 - 5
green ash	Fraxinus pennsylvanica	FRPE	7	0 - 375	0 - 15
bur oak	Quercus macrocarpa	QUMA2	7	0 - 250	0 - 10
Rocky Mountain juniper	Juniperus scopulorum	JUSC2	7	0 - 250	0 - 10
boxelder	Acer negundo	ACNE2	7	0 - 250	0 - 10
eastern redcedar	Juniperus virginiana	JUVI	7	0 - 125	0 - 5
hackberry	Celtis occidentalis	CEOC	7	0 - 125	0 - 5
ponderosa pine	Pinus ponderosa	PIPO	7	0 - 125	0 - 5
other trees		2TREE	7	0 - 125	0 - 5

Annual Production lbs./acre	LOW	RV	HIGH
<b>GRASSES &amp; GRASS-LIKES</b>	1560	1750	1825
<b>FORBS</b>	120	188	275
<b>SHRUBS</b>	120	313	550
<b>TREES</b>	0	250	550
<b>TOTAL</b>	1800	2500	3200

This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic factors. RV = Representative value. Refer to PLANTS database for scientific names and codes: <http://plants.usda.gov>

## Plant Community and Vegetation State Narratives

Following is the narrative for the described plant community. This plant community may not represent every possibility but it is the most prevalent and repeatable plant community. The plant composition table shown above has been developed from the best available knowledge at the time of this revision. As more data is collected, this plant community may be revised or new ones may be added. The main purpose for including any description of a plant community here is to capture the current knowledge and experience at the time of this revision.

### Green Muhly/Bluestem, Shrubs, Trees Plant Community

Interpretations are based primarily on the Green Muhly/Bluestem, Shrubs, Trees Plant Community (this is also considered to be climax). The potential vegetation is about 50-70 percent grasses or grass-like plants, 5-10 percent forbs, 5-20 percent shrubs, and 0-20 percent trees. Warm-season grasses dominate the understory of this site but cool-season grasses are also significant. Various combinations of shrubs and trees usually dominate the overstory of this site.

The major grasses include green muhly, big bluestem, Canada wildrye, plains muhly, and sideoats grama. Other grasses and grass-likes occurring include green needlegrass, porcupine grass, western wheatgrass, little bluestem, and sedge. Significant forbs include cudweed sagewort, heath aster, and purple coneflower. The most significant shrubs occurring in this plant community include silver buffaloberry, snowberry, currant, and sometimes skunkbush sumac. Other shrubs commonly found include rose, yucca, and fringed sagewort. Various species of trees will occasionally dominate the plant community but typically occur in a more scattered fashion. Trees that commonly occur on this plant community include American elm, green ash, Rocky Mountain juniper, bur oak, and boxelder. Refer to the plant community composition and group annual production table for species composition and production.

This plant community is extremely resilient and well adapted to the Northern Great Plains climatic conditions. The diversity in plant species allows for high drought tolerance. Community dynamics, nutrient cycle, water cycle, and energy flow are functioning properly. Plant litter is properly distributed with very little movement offsite; however, litter amounts are often quite high. Natural plant mortality is moderate to high, but the plant species dominating this plant community seem to be adapted to these conditions. The diversity in plant species and the aspect of the slopes allow for high drought tolerance.

The following growth curve shows the estimated monthly percentages of total annual growth of the dominant species expected during an average year:

Growth curve number: NE6404

Growth curve name: Pine Ridge/Badlands, warm-season dominant, cool-season subdominant.

Growth curve description: Warm-season dominant, cool-season subdominant.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	5	8	15	24	23	15	5	5	0	0

## Ecological Site Interpretations

### Animal Community – Wildlife Interpretations

MLRA 64 lies within the drier portion of northern mixed-grass prairie ecosystem where sagebrush steppes to the west yield to grassland steppes to the east. Prior to European settlement, this area consisted of diverse grass/shrub land habitats interspersed with varying densities of depressional, in-stream wetlands, and woody riparian corridors. These habitats provided critical life cycle components for many of its users. Many species of grassland birds, small mammals, reptiles, amphibians, and herds of roaming bison, elk, and pronghorn were among the inhabitants adapted to this semi-arid

region. Roaming herbivores, as well as, several small mammal and insect species, were the primary consumers linking the grassland resources to predators such as the wolf, mountain lion, and grizzly bear, as well as, smaller carnivores such as the coyote, bobcat, fox, and raptors. The prairie dog was once abundant; however, the species remains a keystone species within its range. The black-footed ferret, burrowing owl, ferruginous hawk, mountain plover, and swift fox were associated with prairie dog complexes.

Historically, the northern mixed-grass prairie was a disturbance-driven ecosystem with fire, herbivory, and climate functioning as the primary disturbance factors either singly or in combination. Following European settlement, livestock grazing, cropland conversion, elimination of fire, energy development and other anthropogenic factors influenced species composition and abundance. Introduced and invasive species further impacted plant and animal communities. The bison was a historical keystone species but have been extirpated as a free-ranging herbivore. The loss of the bison and reduction of prairie dog populations and fire as ecological drivers greatly influenced the character of the remaining native plant communities and altered wildlife habitats. Human development has reduced habitat quality for area-sensitive species.

Within MLRA 64, the Thin Breaks Ecological Site (ES) provides upland grassland cover with an associated forb, shrub, and tree component. It was typically part of an expansive grassland landscape that included combinations of Badlands, Clayey, Claypan, Dense Clay, Loamy, Saline, Sandy, Shallow, Overflow, Subirrigated, and Terrace ESs.

Although this ES is primarily dominated by green muhly and big bluestem, this site can support a plant community composed of various age classes of American elm, green ash, bur oak, hackberry, boxelder, Eastern red cedar, Rocky Mountain juniper, and ponderosa pine; with a shrub component of American plum, rose, chokecherry, western snowberry, currant, silver buffaloberry, and skunkbush sumac. Woody plant encroachment may occur onto adjacent Overflow sites. The presence or absence of this tree/shrub component is an important factor influencing wildlife species composition.

This site provides habitat for grassland and shrub thicket nesting birds, small rodents, bats, mammalian predators, and a variety of reptiles, amphibians, and insects. Within the MLRA, this site provides the suitable habitat for numerous woody/shrub thicket associated species. This site provides foraging and brood rearing habitat for upland game birds such as the sharp-tailed grouse. However, due to the presence of woody species, ground nesting birds' reproduction is reduced.

**Green Muhly/Bluestem, Shrubs, Trees Plant Community:** Multiple successional changes can occur when trees establish on the site. During favorable climatic conditions and the lack of fire in a given area, the shrub and tree species abundance and diversity will be greatly increased. Grass species may decline dramatically and species composition can shift due to woody competition and disturbances. Seeps and springs provide vital water supply and localized wildlife habitat especially for reptiles and amphibians, bats, and game species (both predators and prey).

Woody vegetation provides excellent nesting cover, escape cover, and den sites for a variety of species. The presence of bur oak, Rocky Mountain juniper, Eastern red cedar, and ponderosa pine provides a significant food source for species such as fox squirrel, turkey, elk, and deer. Bison may also be present on this site and utilize both the grass and woody vegetation components as food. Species such as white-footed mice, bushy-tailed woodrat, porcupine, sharp-tailed grouse, black-billed magpie, Townsend's solitaire, dark-eyed junco, brown thrasher, lark sparrow, and white-crowned sparrow will also increase. Species such as meadow voles, spotted ground squirrel, northern grasshopper mice, and western harvest mice will not utilize this site. Grassland nesting songbirds will be significantly reduced. Raptors such as the long-eared owl will increase.

The diversity and abundance of fruiting shrubs such as plum, chokecherry, currant, rose, buffaloberry, and sumac provide a significant food source for a variety of animals including songbirds, turkey, sharp-tailed grouse, deer, and small mammals. This site provides habitat for other songbirds such as yellow warbler, orange-crowned warbler, yellow-rumped warbler, Wilson's warbler, gray catbird, Say's phoebe, loggerhead shrike, Lazuli bunting, yellow-breasted chat, and wrens and chickadees. Other raptors such as red-tailed hawk, Swainson's hawk, American kestrel, and great-horned owl may continue to use this site. The diverse and abundant forb (flowering plants) community provides significant forage based for pollinating animals such as bees, flies, beetles, butterflies, and moths. Insects continue to provide a significant forage base for birds and various bats, especially species such as the Western small-footed Myotis, the fringe-tailed Myotis, and the Townsend's big-eared bat. Diverse prey populations are available for grassland raptors and mammalian predators, especially bobcat and mountain lion. Other mammalian predators utilizing this plant community include the coyote, mink, long-tailed and least weasels, red fox, and spotted and striped skunks.

### Animal Preferences (Quarterly – 1,2,3,4†)

Common Name	Cattle	Sheep	Horses	Deer	Antelope	Bison	Elk
<b>Grasses &amp; Grass-likes</b>							
big bluestem	U D P D	U D U U	U D P D	U D U U	U D U U	U D P D	U D P D
blue grama	U D P U	D P P D	U D P U	D P P D	D P P D	U D P U	U D P U
Canada wildrye	U D U U	N U N N	U D U U	N U N N	N U N N	U D U U	U D U U
green muhly	U D D U	N U N N	U D D U	N U N N	N U N N	U D D U	U D D U
green needlegrass	U P U D	N P N P	U P U D	N P N P	N P N P	U P U D	U P U D
little bluestem	U D D U	N D N N	U D D U	N D N N	N D N N	U D D U	U D D U
needleandthread	U D U D	N D N U	U D U D	N D N U	N D N U	U D U D	U D U D
plains muhly	U U D U	U U D U	U U D U	N N N N	N N N N	U U D U	U U D U
porcupine grass	U P U D	N D N U	U P U D	N D N U	N D N U	U P U D	U P U D
prairie dropseed	U D D U	N D N N	U D D U	N D N N	N D N N	U D D U	U D D U
prairie junegrass	U D U D	N D N U	U D U D	N D N U	N D N U	U D U D	U D U D
sedge	U D U D	U P N D	U D U D	U D U D	U D U D	U D U D	U D U D
sideoats grama	U D P U	U P D U	U D P U	U P D U	U P D U	U D P U	U D P U
thickspike wheatgrass	U D D U	N D N N	U D D U	N D N N	N D N N	U D D U	U D D U
western wheatgrass	U P D U	N D N N	U P D U	N D N N	N D N N	U P D U	U P D U
<b>Forbs</b>							
American pasqueflower	U U U U	N U U N	U U U U	N U U N	N U U N	U U U U	N U U N
anemone	U U U U	N U U N	U U U U	N U U N	N U U N	U U U U	N U U N
cinquefoil	U U D U	U U U U	U U D U	U U U U	U U U U	U U D U	U U U U
cudweed sagewort	U U U U	U U D U	U U U U	U U D U	U U D U	U U U U	U U D U
dotted gayfeather	U U D U	U P P U	U U D U	U P P U	U P P U	U U D U	U P P U
goldenrod	U U D U	N U U N	U U D U	N U U N	N U U N	U U D U	N U U N
heath aster	U U D U	U U P U	U U D U	U U P U	U U P U	U U D U	U U P U
milkvetch	U U U U	U D U U	U U U U	U D U U	U D U U	U U U U	U D U U
northern bedstraw	U U U U	U U D U	U U U U	U U D U	U U D U	U U U U	U U D U
penstemon	U U U U	U P P U	U U U U	U P P U	U P P U	U U U U	U P P U
prairie smoke	U U U U	N U U N	U U U U	N U U N	N U U N	U U U U	N U U N
purple coneflower	U U D U	U P P U	U U D U	U P P U	U P P U	U U D U	U P P U
pussytoes	U U U U	U U U U	U U U U	U U U U	U U U U	U U U U	U U U U
scarlet gaura	U U U U	N U U N	U U U U	N U U N	N U U N	U U U U	N U U N
serrate eveningprimrose	U U D U	U D P U	U U D U	U D P U	U D P U	U U D U	U D P U
star lily	U U U U	U U D U	U U U U	U U D U	U U D U	U U U U	U U D U
starry false Solomon's-seal	U U U U	U U U U	U U U U	U U U U	U U U U	U U U U	U U U U
<b>Shrubs</b>							
American plum	D U U D	D U U D	D U U D	P U D D	D U U D	D U U D	D U U D
cactus	N N N N	N N N N	N N N N	N N N N	N N N N	N N N N	N N N N
creeping barberry	U U D U	U U D D	U U U U	U U D D	U U D U	U U D U	U U D U
currant	D U U D	D U U D	D U U D	D U U D	U U U U	D U U D	D U U D
fringed sagewort	U U U U	U U U U	U U U U	U D D U	U P P D	U U U U	U U U U
poison ivy	N N N N	U U U U	N N N N	U U U U	U U U U	N N N N	U U U U
rose	U D D U	U D D U	U D D U	U D D U	U D D U	U D D U	U D D U
silver buffaloberry	D U U U	D U U U	D U U U	P U D P	U U U U	D U U U	D U U U
skunkbush sumac	D U U D	D U U D	D U U D	D U U D	D U U D	D U U D	D U U D
small soapweed	D N N D	D U U D	D N N D	D U U D	D U U D	D N N D	D U U D
snowberry	U U U U	U U U U	U U U U	D U D D	U U U U	U U U U	D U U U
<b>Trees</b>							
American elm	U U U U	U U U U	U U U U	D U D D	U U U U	U U U U	D U U U
boxelder	D U U D	D U U D	D U U D	D U D D	D U U D	D U U D	D U U D
bur oak	T T T T	T T T T	U U U U	U U D D	U U U U	T T T T	U U U U
eastern redcedar	U N N U	U N N U	U N N U	D U U D	U N N U	U N N U	U N N U
green ash	D U U D	D U U D	D U U D	D U D D	D U U D	D U U D	D U U D
hackberry	D U U D	D U U D	D U U D	D U D D	D U U D	D U U D	D U U D
ponderosa pine	U T T U	U N N U	U N N U	U N N U	U N N U	U T T U	U N N U
Rocky Mountain juniper	U N N U	U N N U	U N N U	D U U D	U N N U	U N N U	U N N U

N = not used; U = undesirable; D = desirable; P = preferred; T = toxic

† Quarters: 1 – Jan., Feb., Mar.; 2 – Apr., May, Jun.; 3 – Jul., Aug., Sep.; 4 – Oct., Nov., Dec.

## Animal Community – Grazing Interpretations

Due to the steep slopes and the poor accessibility, this site is not likely to receive significant impacts from grazing. Also, this site typically occupies small areas and would not add tremendously to the forage resources for a grazing management system. Therefore, the available forage on this site would typically not be included when determining the available forage resources for any operating unit. Certainly some use by livestock will occur but the overall significance would likely be slight.

## Hydrology Functions

Water is the principal factor limiting herbage production on this site. The site is dominated by soils in hydrologic group D. Infiltration varies from moderately to high and runoff varies from low to medium depending on slope and ground cover. In many cases, areas with greater than 75 percent ground cover have the greatest potential for high infiltration and lower runoff. Areas where ground cover is less than 50 percent have the greatest potential to have reduced infiltration and higher runoff (refer to Section 4, NRCS National Engineering Handbook for runoff quantities and hydrologic curves).

## Recreational Uses

This site provides hunting opportunities for upland game species. The wide varieties of plants which bloom from spring until fall have an esthetic value that appeals to visitors.

## Wood Products

Local or individual firewood can be utilized from this site. This site has low potential for timber harvest due to steep slopes and variability in site production.

## Other Products

Seed harvest of native plant species can provide additional income on this site.

## Supporting Information

### Associated Sites

(064XY040NE) – Shallow (064XY026NE) – Loamy Overflow  
(064XY037NE) – Thin Upland (064XY027NE) – Clayey Overflow

### Similar Sites

(064XY026NE) – Loamy Overflow [lesser shrub component; green muhly not dominant]

## Inventory Data References

Information presented here has been derived from NRCS clipping data and other inventory data. Field observations from range-trained personnel were also used. Those involved in developing this site include: Stan Boltz, Range Management Specialist (RMS), NRCS; Jill Epley, RMS, NRCS; Rick Peterson, RMS, NRCS; David Steffen, RMS, NRCS; Jeff Vander Wilt; RMS, NRCS; and Phil Young, Soil Scientist, NRCS.

<u>Data Source</u>	<u>Number of Records</u>	<u>Sample Period</u>	<u>State</u>	<u>County</u>
SCS-RANGE-417 Ocular estimates	2	2002	SD	Shannon

## State Correlation

This site has been correlated with NE, SD, and WY in MLRA 64.

### Field Offices/Counties

Alliance, NE	Box Butte	Kadoka, SD	Jackson	Rushville, NE	Sheridan
Bridgeport, NE	Morrill	Lusk, WY	Niobrara	Scottsbluff, NE	Scottsbluff
Chadron, NE	Dawes/Sioux	Martin, SD	Bennett/Shannon	Torrington, WY	Goshen
Custer, SD	Custer	Pine Ridge, SD	Pine Ridge IR	Valentine, NE	Cherry
Douglas, WY	Converse	Rapid City, SD	Pennington	Wall, SD	East Pennington
Hot Springs, SD	Fall River	Rosebud, SD	Rosebud IR	Wheatland, WY	Platte
White River, SD	Mellette/Todd				

### Relationship to Other Established Classifications

High Plains Regional Climate Center, University of Nebraska, 830728 Chase Hall, Lincoln, NE High Plains Regional Climate Center, University of Nebraska, 830728 Chase Hall, Lincoln, NE 68583-0728. (<http://www.hprcc.unl.edu/>)

USDA, NRCS. National Water and Climate Center, 101 SW Main, Suite 1600, Portland, OR 97204-3224. (<http://www.wcc.nrcs.usda.gov>)

USDA, NRCS. National Range and Pasture Handbook, September 1997.

USDA, NRCS. National Soil Information System, Information Technology Center, 2150 Centre Avenue, Building A, Fort Collins, CO 80526. (<http://soils.usda.gov/technical/nasis/>)

USDA, NRCS. 2001. The PLANTS Database, Version 3.1 (<http://plants.usda.gov>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

USDA, NRCS, Various Published Soil Surveys.

### Site Description Approval

\_\_\_\_\_  
NE, State Range Management Specialist

\_\_\_\_\_  
Date

\_\_\_\_\_  
SD, State Range Management Specialist

\_\_\_\_\_  
Date

\_\_\_\_\_  
WY, State Range Management Specialist

\_\_\_\_\_  
Date