

### NEBRASKA RANGE SITE DESCRIPTION

The following sections on climatic features and major uses apply to all Nebraska range site descriptions prepared for Vegetative Zone III.

#### A. Climatic Features

1. The mean average annual precipitation in Vegetative Zone III varies from 20 to 24 inches, but has varied from 11 to 40 inches in the driest to wettest seasons. Approximately 70 percent of the annual precipitation occurs during the growing season of mid-April to late September. The average annual snowfall varies from 12 inches in the southern area to nearly 45 inches in the northern counties.
2. The wind velocity is high throughout the year, averaging 10 to 12 miles per hour. Maximum wind velocities generally occur in March and April.
3. The average length of the growing season is 150 days, but it has varied from 140 in the north to over 165 in the southern counties. The average date of first frost in the fall ranges from September 28 in the northern area to October 7 in the southern counties. July is the hottest month and January is the coldest. It is not uncommon for the temperature to reach 100° F during the summer. Summer humidity is low and evaporation is high. The winters are characterized with frequent northerly winds, producing severe cold with temperatures dropping to as low as -30° F.

#### B. Major Uses

1. Grazing by domestic livestock is one of the major income-producing industries in east-central Nebraska. Rangeland in this area may provide year-long forage for cattle, sheep, or horses. During the dormant period, the forage for livestock use needs to be supplemented with protein because the quality does not meet minimum livestock requirements.

The wet land, wet subirrigated, subirrigated, and saline subirrigated range sites may be used for native hay production, yielding 1.25 to 1.75 tons per acre. In addition, the sands, sandy, and sandy lowland sites in the sandhills area may also be harvested for native hay, yielding 0.5 to 0.75 ton per acre. The clayey and silty sites in the northern counties are used also, producing 0.5 to 1.0 ton per acre. Native meadows are commonly grazed in the fall after hay harvest.

2. Wildlife Habitat

Rangeland in east-central Nebraska provides a wide variation in kinds of vegetation for food and cover. This is ideal habitat for a wide variety of wildlife such as deer (mule and whitetail), wild turkey, prairie grouse, prairie dogs, cottontail rabbit, etc. The mule deer, coyote, prairie dog, and prairie grouse prefer the open type cover; whereas, the whitetail deer, wild turkey, and cottontail rabbit prefer some tree and/or shrub cover.

3. Recreation and Natural Beauty

The Niobrara and Missouri River areas lend themselves well to a variety of users, including hikers, birdwatchers, canoers, hunters, and naturalists. The Nebraska sandhills, Platte River and Republican River drainage systems are used largely by hunters.

In addition, there is a great variety of trees, shrubs, grasses, grasslike plants, and wildflowers. The wide variety of plants which bloom from spring until fall have an esthetic value that appeals to visitors.

4. Hydrologic Characteristics

Water is the principal factor limiting forage production of rangelands. Thus it is essential for maximum production, as well as for flood prevention of adjacent lands, that as much precipitation as possible be held on the site where it falls. This can best be done by maintaining the vegetative cover in as high a range condition as possible. Soils in the range sites have inherent hydrologic characteristics. The hydrologic characteristics of the soils included in each range site are as follows:

Range Site	Runoff	Permeability	Hydrologic Group
Wet Land	Very slow to ponded	Mod. slow to rapid	D
Wet Subirrigated	Very slow	Mod. slow to very rapid	C or D
Subirrigated	Very slow to slow	Mod. slow to very rapid	A,B,C, or D
Saline Subirrigated	Very slow to slow	Moderate to slow	C or D
Silty Overflow	Slow to medium	Mod. to mod. rapid	B or C
Clayey Overflow	Very slow to ponded	Very slow to rapid	C or D
Sandy Lowland	Slow	Slow to rapid	A or B
Silty Lowland	Slow to medium	Slow to rapid	B or C
Saline Lowland	Slow	Mod. slow to moderate	B
Sands	Slow to very slow	Rapid to very rapid	A
Sandy	Very slow to rapid	Mod. to rapid	A or B
Savannah	Slow to rapid	Mod. rapid to rapid	A, B or D
Silty	Slow to rapid	Mod. slow to rapid	B or C
Clayey	Slow to rapid	Mod. slow to very slow	C or D
Choppy Sands	Slow	Rapid	A
Limy Upland	Slow to rapid	Moderate to slow	B or D
Shallow Clay	Slow to very rapid	Slow	D
Shallow to Gravel	Very slow to very rapid	Rapid to very rapid	A
Shallow Limy	Slow to very rapid	Slow to mod. rapid	C or D
Thin Loess	Medium to rapid	Moderate	B

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Wet Land (WL)

MLRAs: 63B, 65, 66, 71,  
73, 75, and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on nearly level areas of bottom lands, stream terraces, and sandhill valleys.

2. Climatic Features:

SEE DISCUSSION FOR ALL RANGE SITES,

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 80 percent grasses, 15 percent grasslike plants, and 5 percent forbs, based upon total annual production, air-dry weight. Bluejoint reedgrass, northern reedgrass, prairie cordgrass, and various members of the sedge family (sedges, rushes, bulrushes, and spikesedges) are the dominant species making up 65 percent or more of the total annual production. Plains bluegrass, slender wheatgrass and some forbs are also important plants to the site.
- b. Relative percentage of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (80 to 90 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Bluejoint reedgrass	15-20	D	I	I
Foxtail barley <u>2/</u>	0-5	I	I	I
Green muhly	0-5	I	I	I
Northern reedgrass	15-20	D	I	I
Plains bluegrass	5-10	I	I	I
Prairie cordgrass	25-40	D	I	I
Reed canarygrass	0-5	D	I	I
Slender wheatgrass	5-10	I	I	I
<u>Grasslike Plants</u> (10 to 15 percent)				
Awlfruit sedge	0-5	I	I	I
Broom sedge	0-5	I	I	I
Bulrushes (other)	0-5	I	I	I
Common spikesedge	0-5	I	I	I
Fox sedge	0-5	I	I	I
Green bulrush	0-5	I	I	I
Hairyseed sedge	0-5	I	I	I
Jointed rush	0-5	I	I	I
Nebraska sedge	0-5	I	I	I
Needle spikesedge	0-5	I	I	I
River bulrush	0-5	I	I	I
Rushes (other)	0-5	I	I	I
Sartwell sedge	0-5	I	I	I
Sedges (other)	0-5	I	I	I
Toad rush	0-5	I	I	I
Tussock sedge	0-5	I	I	I
<u>Forbs</u> (0 to 5 percent)				
False boneset	T <u>3/</u>	I	D	D
Giant goldenrod	T	I	D	D
Heath aster	T	I	D	D
Illinois bundleflower	T	I	D	D
Pennsylvania smartweed	T	I	D	D
Sulfur potentilla	T	I	D	D
Swamp milkweed	T	I	D	D
Wild strawberry	T	I	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Naturalized introduced plant  
3/ Trace species or producing less than 2.5 percent of potential annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	<u>Percent</u>		<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
	<u>Climax</u>	<u>Vegetation</u>		
Excellent	76	to 100	2.1	.5
Good	51	to 75	1.58	.6
Fair	26	to 50	1.05	1.0
Poor	0	to 25	.53	1.9

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 5,000 pounds per acre, air-dry weight, in unfavorable years, to a high of 6,000 pounds in favorable years.

5. Soils

The feature common to all soils in this site is a seasonal high water table that ranges in depth from over surface in wet years to a depth of about 1 foot in dry years.

a. Characteristics

The soils in this site are poorly and very poorly drained. Alluvium and eolian sand are the most common parent materials. The soil ranges in depth from deep to shallow over gravelly coarse sand. A layer of partially decayed organic matter covers the soil in many places. The surface layer is generally darker colored and ranges from 3 to 24 inches thick. Texture ranges from silty clay loam to fine sand. Mottling and gleying are common. The underlying material is lighter colored than the surface layer and ranges from silty clay loam to gravelly coarse sand. In some places, the soils are calcareous at the surface.

b. Major soil taxonomic units associated with this site are:

Barney loam  
Barney silt loam  
Barney fine sandy loam  
Barney soils channeled

Calco silty clay loam, wet

Gannett fine sandy loam (very poorly drained)  
Gannett fine sandy loam, wet  
Gannett loam (very poorly drained)  
Gannett loam, wet

Lamo silty clay loam, wet

Lawet silt loam, wet  
Lawet loam, ponded  
Loup fine sandy loam, wet  
Loup loamy fine sand, wet

Tyron loam (very poorly drained)  
Tryon loamy fine sand, wet  
Tryon loamy sand, wet  
Tryon fine sand, wet

Soil series descriptions are available in the county  
soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES.

C. Field Office Distribution

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Wet Subirrigated (WS)

MLRAs: 65, 66, 71, 75, and 102B

A. Physical Characteristics

1. Physiographic Features

This site occurs on nearly level bottom lands of major stream valleys and in depressions and wet valleys of sandhills.

2. Climatic Features:

SEE DISCUSSION FOR ALL RANGE SITES.

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 80 percent grasses, 10 percent grasslike plants, and 10 percent forbs, based upon total annual production, air-dry weight. Big bluestem, bluejoint reedgrass, indiagrass, northern reedgrass, prairie cordgrass, switchgrass, and various members of the sedge family (sedges, rushes, bulrushes, and spikesedges) are the dominant species making up 75 percent or more of the total annual production. Plains bluegrass, slender wheatgrass and some forbs are also important plants to the site.
- b. Relative percentage of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (80 to 90 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Big bluestem	15-25	D	D	I
Bluejoint reedgrass	5-10	D	I	I
Canada wildrye	0-5	D	I	I
Foxtail barley <u>2/</u>	0-5	I	I	I
Green muhly	0-5	I	I	I
Indiangrass	10-15	D	D	I
Northern reedgrass	5-10	D	I	I
Plains bluegrass	5-10	I	I	I
Prairie cordgrass	10-20	D	I	I
Purple lovegrass	0-5	I	I	I
Reed canarygrass	0-5	D	I	I
Scribner panicum	0-5	I	I	I
Slender wheatgrass	5-10	I	I	I
Switchgrass	15-25	D	I	I
Western wheatgrass	0-5	I	I	I

Grasslike Plants (5 to 10 percent)

Awlfruit sedge	0-5	I	I	I
Bulrushes	0-5	I	I	I
Common spikesedge	0-5	I	I	I
Green bulrush	0-5	I	I	I
Jointed rush	0-5	I	I	I
Needle spikesedge	0-5	I	I	I
River bulrush	0-5	I	I	I
Rushes	0-5	I	I	I
Sartwell sedge	0-5	I	I	I
Sedges	0-5	I	I	I
Tussock sedge	0-5	I	I	I

<u>Forbs</u> (5 to 10 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
American licorice	T <u>3/</u>	I	I	I
Blackeyesusan	T	I	D	D
Blue verbena	T	I	D	D
Giant goldenrod	T	I	D	D
Heath aster	T	I	D	D
Pennsylvania smartweed	T	I	D	D
Prairie onion	T	I	D	D
Scouringrush	T	I	D	D
Sulfur potentilla	T	I	D	D
Thickspike gayfeather	T	I	D	D
Western ragweed	T	I	D	D
Wild strawberry	T	I	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Naturalized introduced plant  
3/ Trace species or producing less than 2.5 percent of potential annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	Percent		<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
	<u>Climax</u>	<u>Vegetation</u>		
Excellent	76	to 100	1.9	.5
Good	51	to 75	1.43	.7
Fair	26	to 50	.95	1.1
Poor	0	to 25	.48	2.1

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 4,750 pounds per acre, air-dry weight, in unfavorable years, to a high of 5,750 pounds in favorable years.

5. Soils

The feature common to all soils in this site is a seasonal high water table that ranges from near the surface in wet years to a depth of 2 feet in dry years.

a. Characteristics

The soils in this site are poorly drained. They formed in alluvium (stream valleys) or in eolian sands (sandhill areas). These are deep, silty, loamy and sandy soils. In places, a thin layer of organic matter

is on the surface of the mineral soil. The surface layer is generally darker colored, ranging from 4 to 24 inches thick. It is loam, silt loam, fine sandy loam, loamy fine sand or fine sandy. The underlying material is lighter colored than the surface layer and is mottled in the upper part. Texture to depth of 60 inches ranges from place to place and includes loam, silt loam, clay loam, fine sand, coarse sand, and gravelly coarse sand. In most places, the soils are calcareous at the surface.

b. Major soil taxonomic unit associated with this site is:

Gannett loam  
Gannett fine sandy loam

Lamo silt loam, wet  
Lawet loam  
Lawet silt loam  
Loup loam  
Loup fine sandy loam

Orwet loam

Platte loam, wet

Tryon loamy sand  
Tryon loamy fine sand  
Tryon fine sand

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES.

C. Field Office Distribution

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Subirrigated (Sb)

MLRAs: 63B, 65, 66, 71, 73  
75, and 102B

A. Physical Characteristics

1. Physiographic Features

This site occurs on nearly level and very gently sloping areas of bottom lands and sandhill valleys. A few areas are in swales, stream terraces and on foot slopes.

2. Climatic Features:

SEE DISCUSSION FOR ALL RANGE SITES.

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 75 percent grasses, 10 percent grasslike plants, 10 percent forbs, and 5 percent shrubs, based upon total annual production, air-dry weight. Big bluestem, indiangrass, little bluestem, prairie cordgrass, switchgrass, and various members of the sedge family (sedges, rushes, bulrushes, and spikesedges) are the dominant species making up 80 percent or more of the total annual production. Plains bluegrass, slender wheatgrass, western wheatgrass and some forbs are also important plants to the site.
- b. Relative percentage of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (75 to 85 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Big bluestem	25-40	D	D	I
Canada wildrye	0-5	D	I	I
Foxtail barley <u>2/</u>	0-5	I	I	I
Green muhly	0-5	I	I	I
Indiangrass	10-20	D	D	I
Kentucky bluegrass <u>2/</u>	0-5	I	I	I
Little bluestem	15-25	D	D	I
Needleandthread	0-5	I	I	I
Plains bluegrass	0-5	I	I	I
Porcupinegrass	0-5	D	I	I
Prairie cordgrass	5-10	D	I	I
Prairie junegrass	0-5	D	I	I
Prairie wedgescale	0-5	D	I	I
Purple lovegrass	0-5	I	I	I
Reed canarygrass	0-5	D	I	I
Scribner panicum	0-5	I	I	I
Sideoats grama	0-10	I	I	I
Slender wheatgrass	0-5	I	I	I
Switchgrass	5-15	D	I	I
Western wheatgrass	0-5	I	I	I
 <u>Grasslike Plants</u> (5 to 10 percent)				
Awlfruit sedge	0-5	I	I	I
Bulrushes	0-5	I	I	I
Common spikesedge	0-5	I	I	I
Green bulrush	0-5	I	I	I
Jointed rush	0-5	I	I	I
River bulrush	0-5	i	I	i
Rushes	0-5	I	I	I
Sartwell sedge	0-5	I	I	I
Sedges	0-5	I	I	I
Tussock sedge	0-5	I	I	I

<u>Forbs</u> (5 to 10 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
American licorice	T <u>3/</u>	I	I	I
Blackeyesusan	T	I	D	D
Blue verbena	T	I	D	D
Cudweed sagewort	T	I	D	D
False boneset	T	I	D	D
Giant goldenrod	T	I	D	D
Heath aster	T	I	D	D
Illinois bundleflower	T	I	D	D
Maximilian sunflower	T	D	D	D
Pennsylvania smartweed	T	I	D	D
Prairie onion	T	I	D	D
Purple prairieclover	T	D	D	D
Scouringrush	T	I	D	D
Stiff goldenrod	T	I	D	D
Stiff sunflower	T	D	D	D
Thickspike gayfeather	T	I	D	D
Upright prairieconeflower	T	I	D	D
Western ragweed	T	I	D	D
White prairieclover	T	D	D	D
Wild strawberry	T	I	D	D

Shrubs (0 to 5 percent)

Arkansas rose	0-5	I	D	D
Leadplant	0-5	D	D	D
Poisonivy	0-5	D	D	D
Western snowberry	0-5	I	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Naturalized introduced plant  
3/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	Percent		<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
	<u>Climax</u>	<u>Vegetation</u>		
Excellent	76	to 100	1.7	.6
Good	51	to 75	1.28	.8
Fair	26	to 50	.85	1.2
Poor	0	to 25	.43	2.3

#### 4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 4,250 pounds per acre, air-dry weight, in unfavorable years, to a high of 5,500 pounds in favorable years.

#### 5. Soils

The feature common to all soils in this site is a seasonal high water table that ranges from a depth of about 1.5 feet in wet years to a depth of 3.5 feet in dry years.

##### a. Characteristics

The soils in this site are somewhat poorly drained and formed in alluvium and eolian sands. The soils are deep to shallow over gravelly coarse sand. The surface layer is generally dark colored and ranges from 6 to 30 inches thick. In places there are lighter colored soils with a surface layer less than 6 inches thick. Texture of the surface layer ranges from silty clay loam to fine sand. The underlying material is lighter colored than the surface layer, and are commonly mottled in some part and range silty clay loam to gravelly coarse sand in texture. Some of these soils are calcareous at or near the surface.

##### b. Major soil taxonomic units associated with this site are:

Alda loam  
Alda sandy loam  
Alda fine sandy loam

Boel loam  
Boel silty clay loam  
Boel fine sandy loam  
Boel loamy fine sand  
Boel soils, channeled

Calco silty clay loam  
Calco silt loam, overwash  
Caruso silty clay loam  
Colo silt loam  
Colo silty clay loam  
Cozad silt loam, wet  
Cozad loam, wet substratum

Els loamy sand  
Els loamy fine sand  
Els fine sand  
Elsmere fine sandy loam  
Elsmere loamy fine sand

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Saline Subirrigated (SS)

MLRAs: 65, 71, 73, 75, and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on nearly level bottom lands of the Platte River valley and smaller tributary stream valleys. Also, in low areas of sandhill valleys.

2. Climatic Features:

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 85 percent grasses, 10 percent grasslike plants, and 5 percent forbs, based upon total annual production, air-dry weight. Alkali sacaton, inland saltgrass, plains bluegrass, slender wheatgrass, switchgrass, and western wheatgrass are the dominant species making up 60 percent or more of the total annual production. Alkali muhly, foxtail barley, grasslike plants, and forbs are also important to the site.
- b. Relative percentages of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (80 to 90 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Alkali muhly	0-5	I	I	I
Alkali sacaton	15-25	D	I	I
Blue grama	0-5	I	I	I
Canada wildrye	0-5	D	I	I
Foxtail barley <u>2/</u>	0-5	I	I	I
Inland saltgrass	5-10	I	I	I
Kentucky bluegrass <u>2/</u>	5-10	I	I	I
Plains bluegrass	5-10	D	I	I
Sand dropseed	0-5	I	I	I
Slender wheatgrass	5-10	D	I	I
Switchgrass	5-15	D	I	I
Western wheatgrass	10-15	D	I	I

<u>Grasslike Plants</u> (5 to 15 percent)		Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Douglas sedge	0-5	I	I	I
Rushes	0-5	I	I	I
Sedges (other)	0-5	I	I	I
Spikerushes	0-5	I	I	I

Forbs (0 to 5 percent)

Common pricklypear	T	I	I	D
Cudweed sagewort	T	I	D	D
Dandelion	T	I	D	D
Heath aster	T	I	D	D
Prairie pussytoes	T	I	D	D
Pursh seepweed	T	I	D	D
Scouringrush	T	I	D	D
Western ragweed	T	I	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Naturalized introduced plant

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	Percent <u>Climax Vegetation</u>	<u>AUM'S/Acre</u>	<u>Acres/AUM</u>
Excellent	76 to 100	1.0	1.0
Good	51 to 75	.75	1.3
Fair	26 to 50	.5	2.0
Poor	0 to 25	.25	4.0

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 2,500 pounds per acre, air-dry weight, in unfavorable years, to a high of 4,000 pounds in favorable years.

5. Soils

The features common to all soils in this site are a seasonal high water table that ranges from a depth of 1.5 feet in wet years to a depth of 3.5 feet in dry years. These soils have moderately to very strongly saline and/or alkali characteristics.

a. Characteristics

The soils in this site are somewhat poorly or poorly drained. The parent material is alluvium on the bottom lands of stream valleys and eolian sand in the sandhill valleys. The surface layer is dark colored, calcareous

Elsmere fine sand

Fonner loam  
Fonner silt loam

Gibbon loam  
Gibbon silt loam  
Gibbon silty clay loam

Hord silt loam, wet  
Hord silty clay loam, wet  
Hord silt loam, wet substratum

Kezan silt loam

Lamo silt loam  
Lamo silty clay loam  
Lamo clay loam, sandy substratum  
Leshara loam  
Leshara silt loam  
Leshara fine sandy loam  
Lawet loam, drained  
Lawet silt loam, drained  
Lex loam  
Lex silt loam  
Lex clay loam  
Lockton loam

Maskell loam, wet  
McPaul silt loam wet  
Merrick loam

Novina sandy loam

Ord loam  
Ord very fine sandy loam  
Ord fine sandy loam  
Orwet loam, drained  
Ovina loam  
Ovina fine sandy loam  
Ovina loamy fine sand

Platte loam  
Platte fine sandy loam  
Percival silty clay

Silver Creek silt loam  
Silver Creek silty clay loam

Wann loam  
Wann sandy loam  
Wann fine sandy loam  
Waubonsie loamy fine sand

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES

C. Field Office Distribution

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Silty Overflow (SiO)

MLRAs: 63B, 71, 73, 75, and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on bottom lands of stream valleys and in swales and drainageways of the uplands. The areas are generally nearly level but a few are very gently sloping.

2. Climatic Features

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

a. The potential natural vegetation (climax) is about 85 percent grasses, 5 percent grasslike plants, and 5 percent forbs, and 5 percent shrubs, based upon total annual production, air-dry weight. Big bluestem, little bluestem, sideoats grama, switchgrass, and western wheatgrass are the dominant species making up 60 percent or more of the total annual production. Blue grama, Kentucky bluegrass, prairie junegrass, Scribner panicum, sedges and forbs are also important plants to the site.

b. Relative percentage of total plant community, by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (85 to 95 percent)	%	<u>Grazing Response</u> <sup>1/</sup>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Big bluestem	20-35	D	D	I
Green needlegrass	0-5	D	I	I
Indiangrass	0-10	D	D	I
Kentucky bluegrass <sup>2/</sup>	0-5	I	I	I
Little bluestem	15-25	D	D	I
Prairie junegrass	0-5	D	I	I
Scribner panicum	0-5	I	I	I
Sideoats grama	5-10	D	D	I
Switchgrass	5-15	D	I	I
Western wheatgrass	15-25	D	I	I

<u>Grasslike Plants</u> (5 to 10 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Sedges (other)	5-10	I	I	I
<u>Forbs</u> (5 to 10 percent)				
Blue verbena	T <u>3/</u>	I	D	D
Cudweed sagewort	T	I	D	D
Dotted gayfeather	T	I	D	D
False boneset	T	I	D	D
Heath aster	T	I	D	D
Illinois tickclover	T	D	D	D
Missouri goldenrod	T	I	D	D
Prairie onion	T	I	D	D
Purple poppymallow	T	I	D	D
Purple prairieclover	T	D	D	D
Rush skeletonplant	T	I	D	D
Silverleaf scurfpea	T	I	D	D
Slimflower scurfpea	T	I	D	D
Western ragweed	T	I	D	D
<u>Shrubs</u> (0 to 5 percent)				
Arkansas rose	0-5	I	D	D
Buckbrush	0-5	I	D	D
Leadplant	0-5	D	D	D
Poisonivy	0-5	D	D	D
Western snowberry	0-5	I	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Naturalized introduced plant  
3/ Trace species or producing less than 2.5 percent of potential annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	<u>Percent Climax Vegetation</u>	<u>AUM'S/Acre</u>	<u>Acres/AUM</u>
Excellent	76 to 100	1.0	1.0
Good	51 to 75	.75	1.3
Fair	26 to 50	.5	2.0
Poor	0 to 25	.25	4.0

and ranges from 1 to 12 inches thick. Texture range from silty clay loam to loamy fine sand. The sites in the Platte River valley have a subsoil that ranges in texture from fine sandy loam to silty clay. The underlying material ranges widely from silty clay to gravelly coarse sand. The salinity and alkalinity can occur in any part of the soil profile depending on the soil texture and seasonal fluctuations of the water table. In early spring many areas have white crusts on the soil surface.

- b. Major soil taxonomic units associated with this site are:

Gayville silt loam

Lawet Variant fine sandy loam

Leshara silt loam, saline

Leshara silt loam, moderately saline

Lex loam, saline-alkali

Lute fine sandy loam

Saltine silt loam

Saltine silty clay loam

Selia loamy sand

Wann loam, saline

Wann silt loam, moderately saline

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

- B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES

- C. Field Office Distribution



NEBRASKA RANGE SITE DESCRIPTION

Range Site: Clayey Overflow (CyO)

MLRAs: 63B, 71, 75, and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on nearly level bottom lands of valleys and in upland depressions.

2. Climatic Features:

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

a. The potential natural vegetation (climax) is about 85 percent grasses, 5 percent grasslike plants, 5 percent forbs, and 5 percent shrubs based upon total annual production, air-dry weight. Big bluestem, little bluestem, switchgrass, and western wheatgrass are the dominant species making up 50 percent or more of the total annual production. Indiangrass, sideoats grama, tall dropseed, sedges, and forbs are also important plants to the site.

b. Relative percentage of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (85 to 95 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Big bluestem	20-35	I	I	I
Green needlegrass	0-5	D	I	I
Indiangrass	5-10	D	I	I
Kentucky bluegrass 2/	0-5	I	I	I
Little bluestem	10-20	D	D	I
Prairie junegrass	0-5	D	I	I
Scribner panicum	0-5	I	I	I
Sideoats grama	0-5	I	I	I
Switchgrass	10-15	D	I	I
Tall dropseed	0-5	I	I	I
Western wheatgrass	5-15	I	I	I
 <u>Grasslike Plants</u> (0 to 5 percent)				
Sedges	0-5	I	I	I

<u>Forbs</u> (5 to 10 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Blue verbena	T <u>3/</u>	I	D	D
Cudweed sagewort	T	I	D	D
False boneset	T	I	D	D
Heath aster	T	I	D	D
Ironweed	T	I	D	D
Missouri goldenrod	T	I	D	D
Purple poppymallow	T	I	D	D
Rush skeletonplant	T	I	D	D
Slimflower scurfpea	T	I	D	D
Western ragweed	T	I	D	D
Wooly verbena	T	I	D	D

Shrubs (0 to 5 percent)

Arkansas rose	0-5	I	D	D
Buckbrush	0-5	I	D	D
Leadplant	0-5	D	D	D
Poisonivy	0-5	D	D	D
Western snowberry	0-5	I	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Naturalized introduced plant  
3/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	Percent		<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
	<u>Climax</u>	<u>Vegetation</u>		
Excellent	76	100	1.0	1.0
Good	51	75	.75	1.3
Fair	26	50	.5	2.0
Poor	0	25	.25	4.0

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 1,750 pounds per acre, air-dry weight, in unfavorable years, to a high of 3,500 pounds in favorable years,

5. Soils

The features common to all soils in this site are the clayey textures of the subsoil or upper part of the underlying material and they are susceptible to frequent flooding.

4. Total Annual Production

The total annual production when the site is in excellent range condition ranges from a low of 2,500 pounds per acre, air-dry weight, in unfavorable years, to a high of 3,500 pounds in favorable years.

5. Soils

The features common to all soils in this site are the silty and loamy surface textures and are susceptible to frequent overflow. The overflow can come from flooding of streams or as a result of water that is runoff from soils on higher adjacent areas.

a. Characteristics

The soils in this site are deep and well drained or moderately well drained. The surface layer can be light or dark colored and in many places stratified with light and dark colored layers of silty clay loam, silt loam, loam, fine sandy loam or very fine sandy loam. On bottom lands the soils are calcareous, and noncalcareous. The underlying material has a similar range in texture as the surface layer, but is lighter colored. On bottom lands, the soil material below 40 inches is commonly coarser textured than material above this depth.

b. Major soil taxonomic units associated with this site are:

Aowa silt loam  
Aowa silt loam, channeled

Calco silt loam, overwash

Grigston silt loam, channeled

Hobbs silt loam  
Hobbs silt loam, channeled  
Hobbs fine sandy loam

McPaul silt loam

Nimbro silt loam

Rusco silt loam

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES

C. Field Office Distribution

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Silty Lowland (SiL)

MLRAs: 63B, 71, 73, 75, and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on nearly level to very gently sloping areas and on bottom lands and terraces of stream valleys or upland swales.

2. Climatic Features

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 80 percent grasses, 5 percent grasslike plants, 10 percent forbs, and 5 percent shrubs, based upon total annual production, air-dry weight. Big bluestem, little bluestem, sideoats grama, western wheatgrass are the dominant species making up 65 percent or more of the total annual production. Blue grama, switchgrass, sedges and forbs are also important plants to the site.
- b. Relative percentage of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (85 to 95 percent)	%	Grazing Response <sup>1/</sup>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Big bluestem	25-40	D	D	I
Blue grama	0-5	I	I	I
Buffalograss	0-5	I	I	I
Indiangrass	0-10	D	D	I
Kentucky bluegrass <sup>2/</sup>	0-5	I	I	I
Little bluestem	20-30	D	D	I
Prairie junegrass	0-5	D	I	I
Scribner panicum	0-5	I	I	I
Sideoats grama	10-15	D	I	I
Switchgrass	5-10	D	I	I
Tall dropseed	0-5	I	I	I
Western wheatgrass	10-20	I	I	I
<u>Grasslike Plants</u> (0 to 5 percent)				
Sedges	0-5	I	I	I
<u>Forbs</u> (5 to 10 percent)				
Blue verbena	T	I	D	D
Cudweed sagewort	T	I	D	D
Dotted gayfeather	T	I	D	D
False boneset	T	I	D	D
Heath aster	T	I	D	D
Illinois tickclover	T	D	D	D
Maximilian sunflower	T	D	D	D
Missouri goldenrod	T	I	D	D
Prairie pussytoe	T	I	D	D
Purple poppymallow	T	I	D	D
Purple prairieclover	T	D	D	D
Rush skeletonplant	T	I	D	D
Slimflower scurfpea	T	I	D	D
Stiff goldenrod	T	I	D	D
Upright prairieconeflower	T	I	D	D
Western ragweed	T	I	D	D
Yarrow	T	I	D	D
<u>Shrubs</u> (0 to 5 percent)				
Arkansas rose	0-5	I	D	D
Buckbrush	0-5	I	D	D
Leadplant	0-5	D	D	D
Poisonivy	0-5	D	D	D
Western snowberry	0-5	I	D	D

- <sup>1/</sup> "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
<sup>2/</sup> Naturalized introduced plant

a. Characteristics

The soils are poorly to somewhat poorly drained. They are deep and formed in alluvium and loess. The alluvium is derived primarily from stream overflow. The soil material consists of stratified sediments, mainly silty clay and clay, but can include layers of silty clay loam. The underlying material ranges in texture from sand to clay. Mottles and gleying are common.

b. Major soil taxonomic units associated with this site are:

Albaton silty clay loam  
Albaton silty clay

Baltic silty clay loam  
Baltic silty clay  
Blake silty clay loam  
Butler silt loam, depressional  
Butler silty clay loam  
Butler silt loam

Fillmore silt loam  
Fillmore silty loam, drained

Nishna silty clay loam

Onawa silty clay

Percival silty clay

Sarpy silty clay, overwash  
Scott silt loam, drained

Zook silty clay loam  
Zook silty clay

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES

C. Field Office Distribution



c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	<u>Percent Climax Vegetation</u>	<u>AUM's/Acre</u>	<u>Acres/AUM</u>
Excellent	76 to 100	1.0	1.0
Good	51 to 75	.75	1.3
Fair	26 to 50	.5	2.0
Poor	0 to 25	.25	4.0

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 3,000 pounds per acre, air-dry weight, in unfavorable years, to a high of 4,500 pounds in favorable years.

5. Soils

The features common to all soils in this site are the loamy and silty textured surface layers and a water table at a depth of 6 to 15 feet.

a. Characteristics

The soils formed in alluvium are deep and well drained to somewhat poorly drained. The surface layer is fine sandy loam to silty clay loam and ranges from 7 to 20 inches thick. The underlying material ranges in texture from silty clay loam to very fine sandy loam. Some soils are underlain by fine sand to gravelly coarse sand. Some soils are generally calcareous at or near the surface.

b. Major soil taxonomic units associated with this site are:

Bazile loam, terrace

Cass loam, occasionally flooded  
Cass silt loam, occasionally flooded  
Colo silt loam  
Colo silty clay loam  
Colo silty clay loam, drained  
Cozad silt loam (terrace)  
Cozad silty clay loam  
Cozad fine sandy loam (terrace)

Detroit silt loam

Gosper loam  
Grable silt loam  
Grable very fine sandy loam  
Grigston silt loam

Grigston fine sandy loam

Hall silt loam, terrace  
Hall silt loam, sandy substratum  
Haynie silt loam  
Hobbs silt loam, occasionally flooded  
Hobbs silt loam, overwash  
Hord silt loam  
Hord silt loam, terrace  
Hord silt loam, sandy substratum  
Hord silt loam, occasionally flooded  
Hord very fine sandy loam  
Hord fine sandy loam  
Hord silty clay loam  
Humbarger loam, gravelly substratum  
Humbarger silt loam

Januade loam

Kenesaw silt loam, terrace  
Kennebec silt loam

Maskell loam  
McCook loam  
McCook silt loam  
McCook fine sandy loam  
Modale silt loam  
Modale very fine sandy loam

Onita silt loam

Roxbury silt loam  
Rusco silt loam

Trent silt loam  
Trent silty clay loam

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location
- B. Major Uses and Interpretations For:  
SEE DISCUSSION FOR ALL RANGE SITES
- C. Field Office Distribution

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Shallow Limy (SwL)

MLRAs: 63B, 66, and 73

A. Physical Characteristics

1. Physiographic Features

The site occurs on nearly level to very steep uplands that comprise areas of sandstone, siltstone or shale bedrock.

2. Climatic Features

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 75 percent grasses, 5 percent grasslike plants, 10 percent forbs, and 10 percent shrubs, based upon total annual production, air-dry weight. Big bluestem, blue grama, little bluestem, sideoats grama, and western wheatgrass are the dominant species making up 60 percent or more of the total annual production. Green needlegrass, needleandthread, prairie sandreed, sand bluestem and numerous forbs and shrubs are also important plants to the site.
- b. Relative percentages of the total plant community, by weight and response to grazing by various kinds of animals:

<u>Grasses (70 to 90 percent)</u>	%	Grazing Response <u>1/</u>			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Big bluestem	10-25	D	D	I	I
Blue grama	10-15	I	I	I	I
Buffalograss	0-5	I	I	I	I
Canada wildrye	0-5	D	I	I	I
Green needlegrass	0-10	D	I	I	I
Hairy grama	0-5	I	I	I	I
Indiangrass	0-5	D	D	I	I
Kentucky bluegrass <u>2/</u>	0-5	I	I	I	I
Little bluestem	20-30	D	D	I	I
Needleandthread	0-10	I	I	I	I
Plains muhly	0-5	I	I	I	I
Prairie junegrass	0-5	D	I	I	I
Prairie sandreed	0-10	I	I	I	I
Purple lovegrass	0-5	I	I	I	I
Sand bluestem	0-15	D	D	I	I
Sand dropseed	0-5	I	I	I	I
Scribner panicum	0-5	I	I	I	I
Sideoats grama	5-15	D	D	I	I
Switchgrass	0-5	D	I	I	I
Western wheatgrass	5-10	I	I	I	I
Wilcox panicum	0-5	I	I	I	I
<u>Grasslike Plants (0 to 5 percent)</u>					
Sedges (other)	0-5	I	I	I	I
Threadleaf sedge	0-5	I	I	I	I

<u>Forbs</u> (5 to 10 percent)	%	Grazing Response <u>1/</u>			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Black samson	T <u>3/</u>	D	D	D	D
Blue verbena	T	I	D	D	D
Breadroot scurfpea	T	D	D	D	D
Catclaw sensitivebriar	T	D	D	D	D
Compassplant	T	D	D	D	D
Cudweed sagewort	T	I	D	D	D
Dotted gayfeather	T	I	D	D	D
Flax	T	I	D	D	D
Heath aster	T	I	D	D	D
Ironplant	T	I	D	D	D
Lambert crazyweed	T	I	D	D	D
Low nailwort	T	I	D	D	D
Missouri goldenrod	T	I	D	D	D
Purple prairieclover	T	D	D	D	D
Rush skeletonplant	T	I	D	D	D
Scarlet globemallow	T	I	D	D	D
Serrateleaf eveningprimrose	T	I	D	D	D
Shellleaf penstemon	T	I	D	D	D
Showy peavine	T	I	D	D	D
Silverleaf scurfpea	T	I	D	D	D
Slender greenthread	T	I	D	D	D
Slimflower scurfpea	T	I	D	D	D
Stiff sunflower	T	D	D	D	D
Upright prairieconeflower	T	I	D	D	D
Western ragweed	T	I	D	D	D
White prairieclover	T	D	D	D	D

Shrubs (5 to 10 percent)

Arkansas rose	0-5	I	D	D	D
Broom snakeweed	0-5	I	D	D	D
Common pricklypear	0-5	I	I	I	D
Fringed sagewort	0-5	I	D	D	D
Leadplant	0-5	D	D	D	D
Skunkbush sumac	0-5	I	D	D	D
Small soapweed	0-5	I	D	D	D
Smooth sumac	0-5	I	D	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Naturalized introduced plant  
3/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	<u>Percent Climax Vegetation</u>	<u>AUM'S/Acre</u>	<u>Acres/AUM</u>
Excellent	76 to 100	.7	1.4
Good	51 to 75	.53	1.9
Fair	26 to 50	.35	2.9
Poor	0 to 25	.18	5.6

4. Total Annual Production

The total annual production when site is in excellent condition ranges from a low of 1,000 pounds per acre, air-dry weight, in unfavorable years, to a high of 2,250 pounds in favorable years.

5. Soils

The features common to all soils in this site are the calcareous surface layer, shallow depth to bedrock, and lack of significant moisture other than normal precipitation.

a. Characteristics

The soils in this site are well drained or somewhat excessively drained. The parent material is weathered sandstone, siltstone, or shale. The surface layer is calcareous and ranges from 3 to 8 inches thick. The texture ranges from loamy very fine sand to silty clay. Calcareous bedrock is at depths of 6 to 20 inches.

b. Major soil taxonomic units associated with this site are:

Bristow silty clay

Canyon loam

Gavins silt loam

Kipson silt loam

Mariaville loam

Mariaville silt loam

Tassel fine sandy loam

Tassel loamy very fine sand

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES

C. Field Office Distribution



NEBRASKA RANGE SITE DESCRIPTION

Range Site: Sandy Lowland (SyL)

MLRAs: 65, 66, 71, 75, and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on nearly level to very gently sloping bottom lands, stream terraces, and on upland swales.

2. Climatic Features

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 85 percent grasses, 5 percent grasslike plants, 5 percent forbs, and 5 percent shrubs based upon total annual production, air-dry weight. Little bluestem, needleandthread, prairie sandreed, sand bluestem, and switchgrass are the dominant species making up 60 percent or more of the total annual production. Blue grama, indiangrass, purple lovegrass, Scribner panicum, sedges, and numerous forbs are also important to the site.
- b. Relative percentage of total plant community, by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (80 to 95 percent)	%	<u>Grazing Response</u> <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Blue grama	0-10	I	I	I
Hairy grama	0-5	I	I	I
Indiangrass	0-10	D	D	I
Kentucky bluegrass <u>2/</u>	0-5	I	I	I
Little bluestem	20-35	D	D	I
Needleandthread	5-10	I	I	I
Porcupinegrass	0-10	D	D	I
Prairie junegrass	0-5	D	I	I
Prairie sandreed	15-25	I	I	I
Purple lovegrass	0-5	I	I	I
Sand bluestem	25-40	D	D	I
Sand dropseed	0-5	I	I	I
Sand lovegrass	0-5	D	D	I
Sand paspalum	0-5	I	I	I
Scribner panicum	0-5	I	I	I
Switchgrass	5-20	D	I	I

<u>Grasslike Plants</u> (0 to 5 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Sedges	0-5	I	I	I
<u>Forbs</u> (5 to 10percent)				
Blue verbena	T	I	D	D
Cudweed sagewort	T	I	D	D
Dotted gayfeather	T	I	D	D
False boneset	T	I	D	D
Heath aster	T	I	D	D
Ironplant	T	I	D	D
Missouri goldenrod	T	I	D	D
Plains larkspur	T	I	D	D
Platte thistle	T	I	D	D
Purple Prairieclover	T	D	D	D
Scouringrush	T	I	D	D
Serrateleaf eveningprimrose	T	I	D	D
Shellleaf penstemon	T	I	D	D
Silky prairieclover	T	I	D	D
Stiff sunflower	T	D	D	D
Upright prairieconeflower	T	I	D	D
Western ragweed	T	I	D	D
<u>Shrubs</u> (0 to 5 percent)				
Arkansas rose	0-5	I	D	D
Brittle pricklypear	0-5	I	I	D
Common pricklypear	0-5	I	D	I
Leadplant	0-5	D	D	D
Sunshine rose	0-5	I	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Naturalized introduced plant

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	<u>Percent Climax Vegetation</u>	<u>AUM'S/Acre</u>	<u>Acres/AUM</u>
Excellent	76 to 100	1.0	1.0
Good	51 to 75	.75	1.3
Fair	26 to 50	.5	2.0
Poor	0 to 25	.25	4.0

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 2,250 pounds per acre, air-dry weight, in unfavorable years, to a high of 3,500 pounds in favorable years.

5. Soils

The features common to all soils in this site are the silt loam to fine sand surface layer and a water table at a 5 to 8 foot depth.

a. Characteristics

The soils in this site are deep and well drained or moderately well drained. The parent material is alluvium derived from stream overflow. The surface layer is from 4 to 20 inches thick and ranges from loam to fine sand in texture. The underlying material is lighter colored than the surface layer and ranges from silt loam to fine sand. A few areas have gravelly sand or gravelly coarse sand below a depth of 40 inches. Some areas of these soils are calcareous at or near the surface.

b. Major soil taxonomic units associated with this site are:

Cass loam  
Cass loam, channeled  
Cass fine sandy loam  
Cass fine sandy loam, overwash

Darr silt loam  
Darr fine sandy loam  
Dunn loamy sand

Elsmere loamy fine sand, drained

Gosper fine sandy loam

Hobbs fine sandy loam

Inavale loam  
Inavale fine sandy loam  
Inavale loamy fine sand  
Inavale loamy sand  
Inavale fine sand  
Inavale fine sand, channeled  
Inavale coarse sand, channeled  
Ipage loamy fine sand  
Ipage fine sand

Janude sandy loam

Libory loamy fine sand

McCook sand, overwash  
Munjor very fine sandy loam  
Munjor fine sandy loam  
Munjor loamy fine sand

Sarpy fine sandy loam  
Sarpy loamy fine sand  
Sarpy fine sand

Thurman loamy fine sand, terrace

Soil series descriptions are available in the county  
soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES

C. Field Office Distribution

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Saline Lowland (SL)

MLRAs: 71

A. Physical Characteristics

1. Physiographic Features

The site occurs on nearly level stream terraces, foot slopes, and uplands.

2. Climatic Features

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

a. The potential natural vegetation (climax) is about 85 percent grasses, 5 percent grasslike plants, 5 percent forbs, and 5 percent shrubs, based upon total annual production, air-dry weight. Alkali sacaton, inland saltgrass, slender wheatgrass, and switchgrass are the dominant species making up 45 percent or more of the total production. Western wheatgrass, Kentucky bluegrass, grasslike plants, and forbs are also important to the site.

b. Relative percentages of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (80 to 90 percent)	%	Grazing Response <sup>1/</sup>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Alkali sacaton	10-15	D	I	I
Blue grama	5-10	I	I	I
Buffalograss	0-5	I	I	I
Inland saltgrass	5-10	I	I	I
Kentucky bluegrass <sup>2/</sup>	5-10	I	I	I
Plains bluegrass	0-5	D	I	I
Sand dropseed	0-5	I	I	I
Slender wheatgrass	10-15	D	I	I
Switchgrass	5-10	D	I	I
Western wheatgrass	5-10	D	I	I

<u>Grasslike Plants</u> (5 to 10 percent)	%	<u>Grazing Response</u> 1/		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Baltic rush	0-5	I	I	I
Douglas sedge	0-5	I	I	I
Rushes (other)	0-5	I	I	I
Sedges (other)	5-10	I	I	I
Spikerushes	0-5	I	I	I
<u>Forbs</u> (0 to 5 percent)				
Common pricklypear	T	I	I	I
Cudweed sagewort	T	I	D	D
Dandelion	T	I	D	D
Flodman thistle	T	I	D	D
Heath aster	T	I	D	D
Scouringrush	T	I	D	D
Skeletonplant	T	I	D	D
Western ragweed	T	I	D	D
<u>Shrubs</u> (0 to 5 percent)				
Broom snakeweed	0-5	I	I	I

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
 2/ Naturalized introduced plant

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	Percent		<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
	<u>Climax</u>	<u>Vegetation</u>		
Excellent	76	100	.9	1.1
Good	51	75	.68	1.5
Fair	26	50	.45	2.2
Poor	0	25	.23	4.3

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 1,750 pounds per acre, air-dry weight, in unfavorable years, to a high of 3,000 pounds in favorable years.

5. Soils

The feature common to all soils in this site are the moderate to strong saline-alkali soil condition. In addition there is a water table at a depth of 6 to 15 feet, or the area receives additional moisture that runs off higher lying adjacent soils.

a. Characteristics

The soils in this site are deep and moderately well drained. The parent material is alluvium. The surface layer is from 6 to 12 inches thick. The surface layer ranges from silt loam to fine sandy loam. The underlying material is loam to silty clay. Some areas are calcareous at or near the surface.

b. Major soil taxonomic units associated with this site are:

Exline silt loam  
Exline fine sandy loam

Gosper loam, saline-alkali

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES

C. Field Office Distribution



NEBRASKA RANGE SITE DESCRIPTIONS

Range Site: Savannah (Sv)

MLRAs: 63B and 66

A. Physical Characteristics

1. Physiographic Features

The site occurs on steep and very steep slopes. It occurs on dissected upland landscapes where ridgetops alternate with drainageways and ravines. In places narrow bottom lands and foot slopes are included.

2. Climatic Features

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

a. The potential natural vegetation (climax) is about 70 percent grasses, 5 percent grasslike plants, 5 percent forbs, 10 percent shrubs, and 10 percent trees, based upon total annual production, air-dry weight. Big bluestem, little bluestem, needleandthread, prairie sandreed, sand bluestem, sideoats grama, and threadleaf sedge are the dominant species making up 55 percent or more of the total annual production. Blue grama, hairy grama, plains muhly, bur oak, and numerous forbs and shrubs are also important plants to the site.

b. Relative percentages of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (70 to 80 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Big bluestem	10-20	D	D	I
Blue grama	0-5	I	I	I
Canada wildrye	0-5	D	I	I
Green needlegrass	0-5	D	I	I
Hairy grama	0-5	I	I	I
Kentucky bluegrass <u>2/</u>	0-5	I	I	I
Little bluestem	15-20	D	D	I
Needleandthread	5-15	I	I	I
Plains muhly	5-10	I	I	I
Prairie junegrass	0-5	D	I	I
Prairie sandreed	0-10	I	I	I
Sand bluestem	0-10	D	D	I
Sideoats grama	5-10	D	D	I
Slender wheatgrass	0-5	I	I	I
Switchgrass	0-5	D	I	I
Western wheatgrass	0-5	I	I	I
<u>Grasslike Plants</u> (5 to 10 percent)				
Sedges (other)	0-5	I	I	I
Threadleaf sedge	5-10	I	I	I
<u>Forbs</u> (5 to 10 percent)				
Black samson	T <u>3/</u>	D	D	D
Blue verbena	T	I	D	D
Catclaw sensitivebriar	T	D	D	D
Cinquefoil	T	I	D	D
Cudweed sageword	T	I	D	D
Dotted gayfeather	T	I	D	D
Fringed sagewort	T	I	D	D
Heath aster	T	I	D	D
Ironplant	T	I	D	D
Lambert crazyweed	T	I	D	D
Missouri goldenrod	T	I	D	D
Platte grounsel	T	I	D	D
Purple prairieclover	T	D	D	D
Rush skeletonplant	T	I	D	D
Serrateleaf eveningprimrose	T	I	D	D
Shellleaf penstemon	T	I	D	D
Shorts milkvetch	T	D	D	D
Silverleaf scurfpea	T	I	D	D
Slender dalea	T	I	D	D
Slimflower scurfpea	T	I	D	D
Upright prairieconeflower	T	I	D	D
Western ragweed	T	I	D	D
White prairieclover	T	D	D	D

<u>Shrubs</u> (5 to 10 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Arkansas rose	0-5	I	D	D
Broom snakeweed	0-5	I	D	D
Common chokecherry	0-5	I	D	D
Common pricklyash	0-5	I	I	I
Common pricklypear	0-5	I	D	D
Gooseberry	0-5	I	I	I
Leadplant	0-5	D	D	D
Poisonivy	0-5	D	D	D
Skunkbush sumac	0-5	I	D	D
Small soapweed	0-5	I	D	D
Smooth sumac	0-5	I	D	D
Western snowberry	0-5	I	D	D
Woods rose	0-5	I	D	D

  

<u>Trees</u> (5 to 10 percent)				
Bur oak	0-5	I	I	I
Eastern redcedar	0-5	I	I	I
Ponderosa pine	5-5	I	I	I

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Naturalized introduced plant  
3/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	Percent		<u>AUM'S/Acre</u>	<u>Acres/AUM</u>
	<u>Climax</u>	<u>Vegetation</u>		
Excellent	76	to 100	.6	1.7
Good	51	to 75	.45	2.2
Fair	26	to 50	.3	3.3
Poor	0	to 25	.15	6.7

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 2,000 pounds per acre, air-dry weight, in unfavorable years, to a high of 3,250 pounds in favorable years.

5. Soils

The features common to this site are the steep and very steep soils on a landscape where the vegetation consists primarily of mixed grasses and scattered trees.

a. Characteristics

The soils in this site range from shallow to moderately deep. The parent material is weathered mainly from fine grained sandstone. The soil material ranges from fine sandy loam to fine sand. The shallow soils have bedrock between a depth of 6 to 20 inches. Deep soils with dark colored surface layers are on bottom lands and foot slopes of the narrow drainageways.

b. Major soil taxonomic unit associated with this site is:

Tassel-Ronson-Duda Complex, 15 to 70 percent slopes

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES

C. Field Office Distribution

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Sandy (Sy)

MLRAs: 63B, 65, 66, 71, 73  
75, and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on nearly level to steep slopes. It occurs along stream terraces, foot slopes, and uplands.

2. Climatic Features:

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 80 percent grasses, 5 percent grasslike plants, 10 percent forbs, and 5 percent shrubs, based upon total annual production, air-dry weight. Prairie sandreed, little bluestem, sand bluestem, and needleandthread are the dominant species making up 70 percent or more of the total annual production. Blue grama, switchgrass, sand lovegrass, sand dropseed, purple lovegrass, Scribner panicum, and numerous forbs are also important plants to the site.
- b. Relative percentage of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (75 to 85 percent)	%	Grazing Response 1/			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Blue grama	5-10	I	I	I	I
Hairy grama	0-5	I	I	I	I
Indiangrass	0-5	D	D	I	I
Kentucky bluegrass 2/	0-5	I	I	I	I
Little bluestem	15-25	D	D	I	I
Needleandthread	10-15	I	I	I	I
Porcupinegrass	0-5	D	I	I	I
Prairie junegrass	0-5	D	I	I	I
Prairie sandreed	15-25	I	I	I	I
Purple lovegrass	0-5	I	I	I	I
Sand bluestem	20-35	D	D	I	I
Sand dropseed	0-5	I	I	I	I
Sand lovegrass	0-10	D	D	I	I
Sand paspalum	0-5	I	I	I	I
Scribner panicum	0-5	I	I	I	I
Sideoats grama	0-5	I	I	I	I
Switchgrass	5-15	D	I	I	I
Western wheatgrass	0-5	I	I	I	I
Wilcox panicum	0-5	I	I	I	I

Grasslike Plants (0 to 5 percent)  
%

Houghton flatsedge	0-5	I	I	I	I
Narrowleaf sedge	0-5	I	I	I	I
Sedges (other)	0-5	I	I	I	I
Schweinitz flatsedge	0-5	I	I	I	I
Threadleaf sedge	0-5	I	I	I	I

<u>Forbs</u> (5 to 10 percent)	Grazing Response <u>1/</u>				
	<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>	
Blue verbena	T <u>3/</u>	I	D	D	D
Carolina gromwell	T	I	D	D	D
Cudweed sagewort	T	I	D	D	D
Dotted gayfeather	T	I	D	D	D
False boneset	T	I	D	D	D
Flodman thistle	T	I	D	D	D
Hairy goldaster	T	I	D	D	D
Heath aster	T	I	D	D	D
Hoary gromwell	T	I	D	D	D
Hoary verbena	T	I	D	D	D
Ironplant	T	I	D	D	D
Missouri goldenrod	T	I	D	D	D
Plains larkspur	T	I	D	D	D
Platte thistle	T	I	D	D	D
Prairie groundsel	T	I	D	D	D
Prairie onion	T	I	D	D	D
Prairie pussytoes	T	I	D	D	D
Rush skeletonplant	T	I	D	D	D
Serrateleaf eveningprimrose	T	I	D	D	D
Shelleaf penstemon	T	I	D	D	D
Silky prairieclover	T	I	D	D	D
Silverleaf scurfpea	T	I	D	D	D
Spiderwort	T	I	D	D	D
Stiff sunflower	T	D	D	D	D
Upright prairieconeflower	T	I	D	D	D
Western ragweed	T	I	D	D	D
Yarrow	T	I	D	D	D

Shrubs (0 to 5 percent)

Arkansas rose	0-5	I	D	D	D
Brittle pricklypear	0-5	I	I	I	D
Common pricklypear	0-5	I	I	D	D
Fringed sagewort	0-5	I	D	D	D
Leadplant	0-5	D	D	D	D
Sunshine rose	0-5	I	D	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Naturalized introduced plant  
3/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	<u>Percent Climax Vegetation</u>	<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
Excellent	76 to 100	.9	1.1
Good	51 to 75	.68	1.5
Fair	26 to 50	.45	2.2
Poor	0 to 25	.23	4.3

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 2,250 pounds per acre, air-dry weight, in unfavorable years, to a high of 3,500 pounds in favorable years.

5. Soils

The features common to all soils in this site are the sandy to loamy surface layers textures.

a. Characteristics

The soils in this site are deep and well drained to excessively drained. The parent material includes loess, eolian sand, alluvium, colluvium, and materials weathered from bedrock. The surface layer is 4 to 20 inches thick and ranges in textures from very fine sandy loam to fine sand. The subsoil ranges in texture from silty clay loam to fine sand. The underlying material ranges from silt loam to gravelly coarse sand.

b. Major soil taxonomic units associated with this site are:

Anselmo very fine sandy loam  
Anselmo very fine sandy loam, terrace  
Anselmo fine sandy loam  
Anselmo fine sandy loam, terrace  
Anselmo fine sandy loam, hummocky  
Anselmo loamy fine sand  
Anselmo loamy fine sand, terrace

Bazile fine sandy loam  
Bazile soils, sand overblown  
Blendon loam  
Blendon sandy loam  
Blendon fine sandy loam  
Boelus sandy loam  
Boelus loamy fine sand  
Boelus loamy sand  
Brocksburg fine sandy loam  
Brunswick fine sandy loam

Doger loamy fine sand  
Doger fine sand  
Duda loamy fine sand  
Dunday fine sandy loam  
Dunday loamy fine sand  
Dunday loamy fine sand, terrace  
Dunday fine sand

Hadar loamy fine sand  
Hersh fine sandy loam  
Henkin sandy loam  
Holt fine sandy loam  
Hord fine sandy loam

Jansen fine sandy loam  
Josburg fine sandy loam

Loretto fine sandy loam  
Loretto fine sandy loam, terrace  
Loretto sandy loam

Manter fine sandy loam  
Manter loamy fine sand

O'Neill loam  
O'Neill fine sandy loam  
O'Neill sandy loam  
O'Neill loamy fine sand  
Ortello loam  
Ortello loam, terrace  
Ortello fine sandy loam, terrace  
Ortello sandy loam  
Ortello loamy fine sand

Paka fine sandy loam  
Paka sandy loam  
Paka soils, sand overblown  
Pinot loamy sand

Ree fine sandy loam  
Ronson fine sandy loam

Simeon loamy sand, PE>44, 0 to 3 percent

Thurman fine sandy loam  
Thurman fine sandy loam, terrace  
Thurman loamy fine sand  
Thurman loamy fine sand, terrace  
Thurman loamy sand  
Thurman fine sand, 0 to 5 percent  
Tuthill fine sandy loam

Valentine loamy fine sand, 0 to 3 percent  
Valentine loamy sand, 0 to 3 percent

Valentine fine sand, 0 to 3 percent  
Vetal fine sandy loam

Wewela fine sandy loam

Soil series descriptions are available in the county  
soil survey handbook or published soil survey.

- 6. Range Site Type Location
- B. Major Uses and Interpretations For:  
SEE DISCUSSION FOR ALL RANGE SITES
- C. Field Office Distribution

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Sands (Sa)

MLRAs: 63B, 65, 66, 71, 73,  
75, and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on gently undulating to rolling land. It occupies sandhills that are part of upland landscapes.

2. Climatic Features

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 80 percent grasses, 5 percent grasslike plants, 10 percent forbs, and 5 percent shrubs, based upon total annual production, air-dry weight. Little bluestem, needleandthread, prairie sandreed, and sand bluestem, sand lovegrass, and switchgrass are the dominant species making up 75 percent or more of the total annual production. Blue grama, indiangrass, porcupinegrass, sand dropseed, and numerous forbs are also important to the site.
- b. Relative percentage of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses (80 to 85 percent)</u>	%	Grazing Response 1/			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Blue grama	0-10	I	I	I	I
Hairy grama	0-5	I	I	I	I
Indiangrass	0-5	D	D	I	I
Little bluestem	15-25	D	D	I	I
Needleandthread	5-10	I	I	I	I
Porcupinegrass	0-10	D	I	I	I
Prairie junegrass	0-5	D	I	I	I
Prairie sandreed	20-30	I	I	I	I
Purple lovegrass	0-5	I	I	I	I
Sand bluestem	20-35	D	D	I	I
Sand dropseed	0-5	I	I	I	I
Sand lovegrass	5-15	D	D	I	I
Sand paspalum	0-5	I	I	I	I
Sandhill muhly	0-5	I	I	I	I
Scribner panicum	0-5	I	I	I	I
Switchgrass	10-20	D	D	I	I
Wilcox panicum	0-5	I	I	I	I
 <u>Grasslike Plants (0 to 5 percent)</u>					
	%				
Houghton flatsedge	0-5	I	I	I	I
Narrowleaf sedge	0-5	I	I	I	I
Sedges (other)	0-5	I	I	I	I
Schweinitz flatsedge	0-5	I	I	I	I

<u>Forbs</u> (5 to 10 percent)	%	Grazing Respons <u>1/</u>			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Blue verbena	T <u>2/</u>	I	D	D	D
Carolina granwell	T	I	D	D	D
-Cudweed sagewort	T	I	D	D	D
-Dotted gayfeather	T	I	D	D	D
False boneset	T	I	D	D	D
Flodman thistle	T	I	D	D	D
?-Heath aster	T	I	D	D	D
Hoary gromwell	T	I	D	D	D
Ironplant	T	I	D	D	D
Lemon scurfpea	T	I	D	D	D
Missouri goldenrod	T	I	D	I	D
Plains larkspur	T	I	D	D	D
Platte thistle	T	I	D	D	D
Prairie groundsel	T	I	D	D	D
Prairie onion	T	I	D	D	D
-Purple prairieclover	T	D	D	D	D
Scaly gayfeather	T	I	D	D	D
Serrateleaf eveningprimrose	T	I	D	D	D
-Shellleaf pemstemon	T	I	D	D	D
Silky prairieclover	T	I	D	D	D
Silverleaf scurfpea	T	I	D	D	D
Spiderwort	T	I	D	D	D
Stiff sunflower	T	D	D	D	D
-Upright prairieconeflower	T	I	D	D	D
Western ragweed	T	I	D	D	D
Woollywhite	T	I	D	D	D

Shrubs (0 to 5 percent)

-Arkansas rose	0-5	I	D	D	D
Brittle pricklypear	0-5	I	I	I	D
Common pricklypear	0-5	I	I	I	D
Inland ceanothus	0-5	D	D	D	D
-Leadplant	0-5	D	D	D	D
Purple mammillaria	0-5	I	I	I	I
Small soapweed	0-5	I	I	I	I
Sunshine rose	0-5	I	D	D	D
Western sandcherry	0-5	I	D	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	<u>Percent</u>		<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
	<u>Climax</u>	<u>Vegetation</u>		
Excellent	76	to 100	.9	1.1
Good	51	to 75	.68	1.5
Fair	26	to 50	.45	2.2
Poor	0	to 25	.23	4.3

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 2,250 pounds per acre, air-dry weight, in unfavorable years, to a high of 3,250 pounds in favorable years.

5. Soils

The features common to all soils in this site are the sandy textured surface layers and slopes are 3 to 17 percent.

a. Characteristics

The soils in this site are somewhat excessively or excessively drained and formed in eolian sand. The surface layer is 3 to 10 inches thick. The texture of the profile is loamy fine sand to sand. The soils may be calcareous or noncalcareous.

b. Major soil taxonomic units associated with this site are:

Inavale loamy fine sand, 3 to 11 percent  
Inavale loamy sand, 3 to 11 percent  
Inavale fine sand, 3 to 11 percent

Sarpy loamy fine sand, 3 to 11 percent  
Simeon loamy sand, PE>44, 3 or more percent

Thurman fine sand, 6 to 11 percent

Valentine loamy fine sand, 3 to 17 percent  
Valentine loamy fine sand, rolling  
Valentine loamy fine sand, undulating  
Valentine loamy fine sand, gently rolling  
Valentine loamy sand, 3 to 17 percent  
Valentine fine sand, 3 to 17 percent  
Valentine fine sand, rolling

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations:

SEE DISCUSSION FOR ALL RANGE SITES

C. Field Office Distribution:



NEBRASKA RANGE SITE DESCRIPTION

Range Site: Choppy Sands (CS)

MLRA: 65

A. Physical Characteristics

1. Physiographic Features

This site occurs on steep hilly irregular slopes. There are many narrow ridges, sharp peaks, catsteps, and small blowouts associated with this site.

2. Climatic Features:

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 85 percent grasses, 5 percent grasslike plants, 5 percent forbs, and 5 percent shrubs. Little bluestem, prairie sandreed, sand bluestem, sand lovegrass, and switchgrass are the dominant species making up 70 percent or more of the total annual production. Blowoutgrass, iniangrass, porcupinegrass, sandhill muhly, and some forbs and shrubs are also important to the site.
- b. Relative percentage of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (80 to 90 percent)	%	Grazing Response <u>1/</u>			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Blowoutgrass	0-10	D	D	I	I
Blue grama	0-5	I	I	I	I
Hairy grama	0-5	I	I	I	I
Indiangrass	5-10	D	D	I	I
Little bluestem	15-25	D	D	I	I
Needleandthread	5-10	I	I	I	I
Porcupinegrass	0-10	D	I	I	I
Prairie junegrass	0-5	D	I	I	I
Prairie sandreed	15-25	I	I	I	I
Sand bluestem	20-40	D	D	I	I
Sand dropseed	0-5	I	I	I	I
Sand lovegrass	5-20	D	D	I	I
Sand paspalum	0-5	I	I	I	I
Sandhill muhly	0-10	I	I	I	I
Scribner panicum	0-5	I	I	I	I
Switchgrass	10-25	D	I	I	I
Wilcox panicum	0-5	I	I	I	I
<u>Grasslike Plants</u> (0 to 5 percent)					
Sedges	0-5	I	I	I	I
Schweinitz flatsedge	0-5	I	I	I	I
<u>Forbs</u> (0 to 5 percent)					
Carolina gromwell	T <u>2/</u>	I	D	D	D
Flodman thistle	T	I	D	D	D
Hairy goldaster	T	I	D	D	D
Ironplant	T	I	D	D	D
Lemon scurfpea	T	I	D	D	D
Missouri goldenrod	T	I	D	D	D
Platte thistle	T	I	D	D	D
Prairie groundsel	T	I	D	D	D
Scaly gayfeather	T	I	D	D	D
Silky prairieclover	T	I	D	D	D
Spiderwort	T	I	D	D	D
Stiff sunflower	T	D	D	D	D
Tenpetal mentzelia	T	I	D	D	D
Western ragweed	T	I	D	D	D
Woolywhite	T	I	D	D	D

Shrubs (0 to 5 percent)	%	Grazing Response <u>1/</u>			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Arkansas rose	0-5	I	D	D	D
Brittle pricklypear	0-5	I	I	I	D
Common pricklypear	0-5	I	I	D	D
Inland ceanothus	0-5	D	D	D	D
Poisonivy	0-5	D	D	D	D
Small soapweed	0-5	I	D	D	D
Western sandcherry	0-5	I	D	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	Percent		
	<u>Climax Vegetation</u>	<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
Excellent	76 to 100	.7	1.4
Good	51 to 75	.53	1.9
Fair	26 to 50	.35	2.9
Poor	0 to 25	.18	5.6

4. Total Annual Production

The total annual production when the site is in excellent range condition ranges from a low of 2,000 pounds per acre, air-dry weight, in unfavorable years, to a high of 3,250 pounds in favorable years.

5. Soils

The features common to the soils in this site are the sandy textures throughout the soil and they occur on irregular slopes over 17 percent.

a. Characteristics

The soils in this site are excessively drained and formed in eolian sand. The surface layer is 2 to 10 inches thick and the soil texture is fine sand. The soils are noncalcareous.

- b. Major soil taxonomic units associated with this site are:

Valentine fine sand, hilly

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

- B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES

- C. Field Office Distribution

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Clayey (Cy)

MLRAs: 63B, 66, 71, 75,  
and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on nearly level to steep slopes of uplands and foot slopes. A few areas are in swales of the uplands.

2. Climatic Features:

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 80 percent grasses, 5 percent grasslike plants, 10 percent forbs, and 5 percent shrubs based upon total annual production, air-dry weight. Big bluestem, blue grama, green needlegrass, little bluestem, needleandthread, sideoats grama and western wheatgrass are the dominant species making up 70 percent or more of the total annual production. Buffalograss, Kentucky bluegrass, prairie junegrass, tall dropseed, some grasslike plants and shrubs, and numerous forbs are also important plants to the site.
- b. Relative percentage of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (75 to 85 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Big bluestem	0-5	D	D	I
Blue grama	15-20	I	I	I
Buffalograss	5-10	I	I	I
Green needlegrass	10-15	D	I	I
Kentucky bluegrass <u>2/</u>	0-5	I	I	I
Little bluestem	0-5	D	D	I
Needleandthread	5-10	I	I	I
Plains muhly	0-5	I	I	I
Porcupinegrass	0-5	I	I	I
Prairie dropseed	0-5	D	I	I
Prairie junegrass	0-5	D	I	I
Sand dropseed	0-5	I	I	I
Scribner panicum	0-5	I	I	I
Sideoats grama	0-5	D	D	I
Switchgrass	0-5	D	I	I
Tall dropseed	0-5	I	I	I
Western wheatgrass	35-50	D	I	I
Wilcox panicum	0-5	I	I	I
 <u>Grasslike Plants</u> (0 to 5 percent)				
Blunt spikesedge	0-5	I	I	I
Crawe sedge	0-5	I	I	I
Flatsedges	0-5	I	I	I
Heavy sedge	0-5	I	I	I
Mead sedge	0-5	I	I	I
Narrowleaf sedge	0-5	I	I	I
Sedges (other)	0-5	I	I	I
Sun sedge	0-5	I	I	I
Threadleaf sedge	0-5	I	I	I

<u>Forbs</u> (5 to 10 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Aromatic aster	T <u>3/</u>	I	D	D
Black samson	T	D	D	D
Blue verbena	T	I	D	D
Catclaw sensitivebriar	T	D	D	D
Compassplant	T	D	D	D
Cudweed sagewort	T	I	D	D
Dotted gayfeather	T	I	D	D
False boneset	T	I	D	D
Groundplum milkvetch	T	D	D	D
Heath aster	T	I	D	D
Ironplant	T	I	D	D
Missouri goldenrod	T	I	D	D
Prairie groundsel	T	I	D	D
Purple prairieclover	T	D	D	D
Rush skeletonplant	T	I	D	D
Shellleaf penstemon	T	I	D	D
Silverleaf scurfpea	T	I	D	D
Slender greenthread	T	I	D	D
Slimflower scurfpea	T	I	D	D
Stiff sunflower	T	D	D	D
Upright prairieconeflower	T	I	D	D
Western ragweed	T	I	D	D
White prairieclover	T	D	D	D
Wooly verbena	T	I	D	D
<u>Shrubs</u> (5 to 10 percent)				
Arkansas rose	0-5	I	D	D
Buckbush	0-5	I	D	D
Common pricklypear	0-5	I	D	I
Fringed sagewort	0-5	I	D	D
Jerseytea ceanothus	0-5	D	D	D
Leadplant	0-5	D	D	D
Smooth sumac	0-5	I	D	D
Sunshine rose	0-5	I	D	D
Western Snowberry	0-5	I	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to suggestive initial stocking rates

<u>Condition Class</u>	<u>Percent Climax Vegetation</u>	<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
Excellent	76 to 100	.9	1.1
Good	51 to 75	.68	1.5
Fair	26 to 50	.45	2.2
Poor	0 to 25	.23	4.3

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 2,250 pounds per acre, air-dry weight, in unfavorable years, to a high of 3,750 pounds in favorable years.

5. Soils

The features common to all soils in this site are the clayey subsoil and lack of moisture other than normal precipitation..

a. Characteristics

The soils in this site are somewhat poorly drained to well drained. They formed in materials that include loess, shale, and alluvium. The surface layer is silt loam to silty clay and ranges from 6 to 14 inches thick. The subsoil and underlying material range from silty clay to clay. In some places shale is at a depth of 20 to 40 inches.

b. Major soil taxonomic units associated with this site are:

Boyd silty clay  
Butler silt loam

Crete silt loam  
Crete silty clay loam

Labu silty clay  
Longford loam

Promise silty clay

Verdel silty clay loam  
Verdel silty clay

Wood River silt loam

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Silty (Si)

MLRAs: 63B, 66, 71, 73,  
75, and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on nearly level to steep slopes on stream terraces, foot slopes, and uplands.

2. Climatic Features:

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 80 percent grasses, 5 percent grasslike plants, 10 percent forbs, and 5 percent shrubs, based upon total annual production, air-dry weight. Big bluestem, blue grama, little bluestem, sideoats grama, switchgrass, and western wheatgrass are the dominant species making up 70 percent or more of the total annual production. Buffalograss, needleandthread, prairie junegrass, Scribner panicum, numerous forbs, and some shrubs are also important plants to the site.
- b. Relative percentage of total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (70 to 85 percent)	%	Grazing Response <u>1/</u>			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Big bluestem	20-25	D	D	I	I
Blue grama	5-10	I	I	I	I
Buffalograss	0-5	I	I	I	I
Green needlegrass	0-5	D	I	I	I
Indiangrass	0-10	D	D	I	I
Kentucky bluegrass <u>2/</u>	0-5	I	I	I	I
Little bluestem	15-25	D	D	I	I
Needleandthread	0-10	I	I	I	I
Plains muhly	0-5	I	I	I	I
Porcupinegrass	0-5	D	I	I	I
Prairie junegrass	0-5	D	I	I	I
Sand dropseed	0-5	I	I	I	I
Scribner panicum	0-5	I	I	I	I
Sideoats grama	5-15	I	I	I	I
Switchgrass	5-10	D	I	I	I
Tall dropseed	0-5	I	I	I	I
Western wheatgrass	10-15	I	I	I	I
<u>Grasslike Plants</u> (5 to 10 percent)					
Blunt spikesedge	0-5	I	I	I	I
Crawe sedge	0-5	I	I	I	I
Flatsedges	0-5	I	I	I	I
Heavy sedge	0-5	I	I	I	I
Mead sedge	0-5	I	I	I	I
Narrowleaf sedge	0-5	I	I	I	I
Sedges (other)	0-5	I	I	I	I
Sun sedge	0-5	I	I	I	I
Threadleaf sedge	0-5	I	I	I	I

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES

C. Field Office Distribution



<u>Forbs</u> (5 to 10 percent)	%	Grazing Response 1/			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Aromatic aster	T 3/	I	D	D	D
Black samson	T	D	D	D	D
Blue verbena	T	I	D	D	D
Carolina anemone	T	I	D	D	D
Catclaw Sensitivebriar	T	D	D	D	D
Common breadroot	T	D	D	D	D
Compassplant	T	D	D	D	D
Cudweed sagewort	T	I	D	D	D
Dotted gayfeather	T	I	D	D	D
False boneset	T	I	D	D	D
Groundplum milkvetch	T	D	D	D	D
Heath aster	T	I	D	D	D
Illinois tickclover	T	D	D	D	D
Ironplant	T	I	D	D	D
Maximilian sunflower	T	D	D	D	D
Missouri goldenrod	T	I	D	D	D
Prairie blue-eyedgrass	T	I	D	D	D
Prairie groundsel	T	I	D	D	D
Prairie onion	T	I	D	D	D
Prairie pussytoes	T	I	D	D	D
Purple prairieclover	T	D	D	D	D
Rush skeletonplant	T	I	D	D	D
Scarlet gaura	T	I	D	D	D
Scarlet globemallow	T	I	D	D	D
Serrateleaf eveningprimrose	T	I	D	D	D
Shellleaf penstemon	T	I	D	D	D
Silverleaf scurfpea	T	I	D	D	D
Slender greenthread	T	I	D	D	D
Slimflower scurfpea	T	I	D	D	D
Stiff goldenrod	T	I	D	D	D
Stiff sunflower	T	D	D	D	D
Upright prairieconeflower	T	I	D	D	D
Western ragweed	T	I	D	D	D
Wooly verbena	T	I	D	D	D
Yarrow	T	I	D	D	D

<u>Shrubs</u> (5 to 10 percent)	%	Grazing Response <u>1/</u>			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Arkansas rose	0-5	I	D	D	D
Buckbrush	0-5	I	D	D	D
Common pricklypear	0-5	I	I	D	D
Jerseytea ceanothus	0-5	D	D	D	D
Leadplant	0-5	D	D	D	D
Small soapweed	0-5	I	D	D	D
Smooth sumac	0-5	I	D	D	D
Sunshine rose	0-5	I	D	D	D
Western snowberry	0-5	I	D	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Naturalized introduced plant  
3/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	Percent		<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
	<u>Climax</u>	<u>Vegetation</u>		
Excellent	76	100	.9	1.1
Good	51	75	.68	1.5
Fair	26	50	.45	2.2
Poor	0	25	.23	4.3

4. Total Annual Production

The total annual production when the site is in excellent range condition ranges from a low of 2,250 pounds per acre, air-dry weight, in unfavorable years, to a high of 4,000 pounds in favorable years.

5. Soils

The features common to all soils in this site are the loamy and textured surface layers and the lack of any moisture other than normal precipitation.

a. Characteristics

The soils in this site are well drained or moderately well drained and are deep to moderately deep over gravelly coarse sand. They formed in a wide range of materials that includes loess, colluvium-alluvium, glacial till, alluvium, and material weathered from siltstone. The surface layer is very fine sandy loam to silty clay loam and ranges in depth from 6 to 30 inches. The subsoil and the underlying material have a

similar range in texture as the surface layer but include fine sandy loam and sandy loam. Some soils have gravelly coarse sand at 20 to 40 inches. Bedrock occurs in some areas at a depth of 40 to 46 inches.

- b. Major soil taxonomic units associated with this site are:

Alcester silt loam

Bazile loam  
Bazile silt loam  
Bazile silty clay loam  
Belfore silt loam  
Belfore silty clay loam  
Brocksburg loam

Clarno loam  
Clarno clay loam  
Cozad silt loam (upland)

Detroit silt loam

Eltree silt loam

Gates very fine sandy loam  
Geary silt loam  
Geary silty clay loam  
Graybert very fine sandy loam

Hall silt loam (upland)  
Hastings silt loam  
Hastings silty clay loam  
Holder silt loam  
Holder silty clay loam  
Holdredge silt loam  
Hord silt loam (upland)  
Hord very fine sandy loam (upland)

Jansen loam  
Josburg loam  
Judson silt loam

Kenesaw silt loam  
Kenesaw very fine sandy loam

Loretto loam

Moody silt loam  
Moody silty clay loam

Nora silt loam  
Nora silty clay loam  
Nuckolls silt loam

O'Neill loam  
Onita silt loam  
Ortello loam

Paka loam  
Paka silty clay loam

Ree silt loam  
Ree loam  
Ree loam, clayey substratum  
Reliance silt loam  
Reliance silty clay loam

Trent silt loam

Uly silt loam

Wakeen silt loam

Vetal loam

Soil series descriptions are available in the county  
soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations:

SEE DISCUSSION FOR ALL RANGE SITES

C. Field Office Distribution

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Limy Upland (LiU)

MLRAs: 63B, 66, 71, 73,  
75, and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on nearly level to steep foot slopes and uplands.

2. Climatic Features:

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 75 percent grasses, 10 percent grasslike plants, 10 percent forbs, and 5 percent shrubs, based upon total annual production, air-dry weight. Little bluestem, big bluestem, sideoats grama, and blue grama are the dominant species making up 70 percent or more of the total annual production. Plains muhly, buffalograss, needleandthread, western wheatgrass, numerous forbs, and some shrubs are also important plants to the site.
- b. Relative percentages of the total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (70 to 85 percent)	%	Grazing Response <u>1/</u>			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Big bluestem	15-30	D	D	I	I
Blue grama	5-10	I	I	I	I
Buffalograss	0-5	I	I	I	I
Canada wildrye	0-5	D	I	I	I
Green needlegrass	0-5	D	I	I	I
Hairy grama	0-5	I	I	I	I
Indiangrass	0-10	D	D	I	I
Kentucky bluegrass <u>2/</u>	0-5	I	I	I	I
Little bluestem	25-35	D	D	I	I
Needleandthread	0-10	I	I	I	I
Plains muhly	0-5	I	I	I	I
Porcupinegrass	0-5	D	I	I	I
Prairie junegrass	0-5	D	I	I	I
Prairie sandreed	0-5	I	I	I	I
Scribner panicum	0-5	I	I	I	I
Sideoats grama	10-15	I	I	I	I
Switchgrass	0-5	D	I	I	I
Tall dropseed	0-5	I	I	I	I
Western wheatgrass	5-10	I	I	I	I
Wilcox panicum	0-5	I	I	I	I
<u>Grasslike Plants</u> (5 to 10 percent)					
Sedges (other)	0-5	I	I	I	I
Threadleaf sedge	5-10	I	I	I	I
<u>Forbs</u> (5 to 10 percent)					
Black samson	T <u>3/</u>	D	D	D	D
Catclaw sensitivebriar	T	D	D	D	D
Compassplant	T	D	D	D	D
Dotted gayfeather	T	I	D	D	D
Heath aster	T	I	D	D	D
Ironplant	T	I	D	D	D
Lambert crazyweed	T	I	D	D	D
Missouri goldenrod	T	I	D	D	D
Pitcher sage	T	D	D	D	D
Purple prairieclover	T	D	D	D	D
Serrateleaf eveningprimrose	T	I	D	D	D
Silverleaf scurfpea	T	I	D	D	D
Slender greenthread	T	I	D	D	D
Slimflower scurfpea	T	I	D	D	D
Stiff sunflower	T	D	D	D	D
Upright prairieconeflower	T	I	D	D	D
Western ragweed	T	I	D	D	D

<u>Shrubs</u> (5 to 10 percent)	%	Grazing Response 1/			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Arkansas rose	T	I	D	D	D
Brittle pricklypear	T	I	I	I	D
Broom snakeweed	T	I	D	D	D
Buckbrush	T	I	D	D	D
Common pricklypear	T	I	I	I	D
Common snowberry	T	I	D	D	D
Fringed sagewort	T	I	D	D	D
Leadplant	T	D	D	D	D
Small soapweed	T	I	D	D	D
Smooth sumac	T	I	D	D	D
Sunshine rose	T	I	D	D	D

- 1/ "D" implies plant decreases under grazing pressure  
"I" implies plant increases under grazing pressure
- 2/ Naturalized introduced plant
- 3/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	Percent		<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
	<u>Climax</u>	<u>Vegetation</u>		
Excellent	76	to 100	.7	1.4
Good	51	to 75	.53	1.9
Fair	26	to 50	.35	2.9
Poor	0	to 25	.18	5.6

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 2,000 pounds per acre, air-dry weight, in unfavorable years, to a high of 3,250 pounds in favorable years.

5. Soils

The features common to all soils in this site are calcareous at or near the surface and in the subsoil. The soils are moderately deep and deep, and depend upon precipitation for all moisture.

a. Characteristics

The soils in this site are well to somewhat excessively drained. They are formed in parent material that includes colluvium-alluvium, loess, and material weathered from siltstone and shale. The surface layer is calcareous and generally light colored. The texture ranges from silty clay to loam in the surface layer and

the underlying material. In places, bedrock is at a depth of 20 to 40 inches.

- b. Major soil taxonomic units associated with this site are:

Betts loam  
Betts clay loam

Clarno clay loam  
Colby silt loam  
Coly loam  
Crofton silt loam

Keota silt loam

Lynch silty clay

Redstoe silt loam

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

- B. Major Uses and Interpretations:

SEE DISCUSSION FOR ALL RANGE SITES

- C. Field Office Distribution

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Shallow Clay (SwC)

MLRA: 63B and 66

A. Physical Characteristics

1. Physiographic Features

The site occurs on gently sloping to very steep uplands that comprise the Pierre shale formation.

2. Climatic Features:

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 75 percent grasses, 10 percent grasslike plants, 10 percent forbs, and 5 percent shrubs, based upon total annual production, air-dry weight. Big bluestem, green needlegrass, little bluestem, needleandthread, sideoats grama, and threadleaf sedge are the dominant species making up 65 percent or more of the total annual production. Blue grama, Sandberg bluegrass, Scribner panicum, western wheatgrass, broom snakeweed, and numerous forbs are also important plants to the site.
- b. Relative percentage of total plant community, by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (70 to 85 percent)	%	<u>Grazing Response</u> <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Big bluestem	10-20	D	D	I
Blue grama	0-5	I	I	I
Green needlegrass	15-20	D	I	I
Little bluestem	10-15	D	D	I
Needleandthread	5-10	I	I	I
Sandberg bluegrass	0-5	I	I	I
Scribner panicum	0-5	I	I	I
Sideoats grama	10-20	D	D	I
Western wheatgrass	0-5	I	I	I

<u>Grasslike Plants</u> (10 to 15 percent) %	<u>Grazing Response</u> <sup>1/</sup>			
	<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	
Sedges	0-5	I	I	I
Threadleaf sedge	10-15	I	I	I
<u>Forbs</u> (5 to 10 percent)				
Black samson	T <sup>2/</sup>	D	D	D
Blue verbena	T	I	D	D
Dotted gayfeather	T	I	D	D
Purple prairieclover	T	D	D	D
Shellleaf penstemon	T	I	D	D
Silverleaf scurfpea	T	I	D	D
Slimflower scurfpea	T	I	D	D
Stiff Sunflower	T	D	D	D
Western ragweed	T	I	D	D
<u>Shrubs</u> (0 to 5 percent)				
Broom snakeweed	0-5	I	D	D

- <sup>1/</sup> "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
<sup>2/</sup> Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	<u>Percent Climax Vegetation</u>	<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
Excellent	76 to 100	.7	1.4
Good	51 to 75	.53	1.9
Fair	26 to 50	.35	2.9
Poor	0 to 25	.18	5.5

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 1,000 pounds per acre, air-dry weight, in unfavorable years, to a high of 2,500 pounds in favorable years.

5. Soils

The features common to all soils in this site are the clayey textured surface layer and the shallow depth of soil.

a. Characteristics

The soils in this site are well drained. They formed in material weathered from soft shale of the Pierre formation. The surface layer is silty clay or clay and 2 to 4 inches thick. The underlying material is silty clay or clay 2 to 7 inches thick. At a depth of 4 to 20 inches thick is the olive grayish bedded shale. The soils are calcareous at or near the surface.

b. Major soil taxonomic unit associated with this site is:

Sansarc silty clay

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES

C. Field Office Distribution



NEBRASKA RANGE SITE DESCRIPTION

Range Site: Shallow Limy (SwL)

MLRAs: 63B, 66, and 73

A. Physical Characteristics

1. Physiographic Features

The site occurs on nearly level to very steep uplands that comprise areas of sandstone, siltstone or shale bedrock.

2. Climatic Features

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 75 percent grasses, 5 percent grasslike plants, 10 percent forbs, and 10 percent shrubs, based upon total annual production, air-dry weight. Big bluestem, blue grama, little bluestem, sideoats grama, and western wheatgrass are the dominant species making up 60 percent or more of the total annual production. Green needlegrass, needleandthread, prairie sandreed, sand bluestem and numerous forbs and shrubs are also important plants to the site.
- b. Relative percentages of the total plant community, by weight and response to grazing by various kinds of animals:

<u>Grasses (70 to 90 percent)</u>	%	Grazing Response <u>1/</u>			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Big bluestem	10-25	D	D	I	I
Blue grama	10-15	I	I	I	I
Buffalograss	0-5	I	I	I	I
Canada wildrye	0-5	D	I	I	I
Green needlegrass	0-10	D	I	I	I
Hairy grama	0-5	I	I	I	I
Indiangrass	0-5	D	D	I	I
Kentucky bluegrass <u>2/</u>	0-5	I	I	I	I
Little bluestem	20-30	D	D	I	I
Needleandthread	0-10	I	I	I	I
Plains muhly	0-5	I	I	I	I
Prairie junegrass	0-5	D	I	I	I
Prairie sandreed	0-10	I	I	I	I
Purple lovegrass	0-5	I	I	I	I
Sand bluestem	0-15	D	D	I	I
Sand dropseed	0-5	I	I	I	I
Scribner panicum	0-5	I	I	I	I
Sideoats grama	5-15	D	D	I	I
Switchgrass	0-5	D	I	I	I
Western wheatgrass	5-10	I	I	I	I
Wilcox panicum	0-5	I	I	I	I
<u>Grasslike Plants (0 to 5 percent)</u>					
Sedges (other)	0-5	I	I	I	I
Threadleaf sedge	0-5	I	I	I	I

<u>Forbs</u> (5 to 10 percent)	%	Grazing Response <u>1/</u>			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Black samson	T <u>3/</u>	D	D	D	D
Blue verbena	T	I	D	D	D
Breadroot scurfpea	T	D	D	D	D
Catclaw sensitivebriar	T	D	D	D	D
Compassplant	T	D	D	D	D
Cudweed sagewort	T	I	D	D	D
Dotted gayfeather	T	I	D	D	D
Flax	T	I	D	D	D
Heath aster	T	I	D	D	D
Ironplant	T	I	D	D	D
Lambert crazyweed	T	I	D	D	D
Low nailwort	T	I	D	D	D
Missouri goldenrod	T	I	D	D	D
Purple prairieclover	T	D	D	D	D
Rush skeletonplant	T	I	D	D	D
Scarlet globemallow	T	I	D	D	D
Serrateleaf eveningprimrose	T	I	D	D	D
Shelleaf penstemon	T	I	D	D	D
Showy peavine	T	I	D	D	D
Silverleaf scurfpea	T	I	D	D	D
Slender greenthread	T	I	D	D	D
Slimflower scurfpea	T	I	D	D	D
Stiff sunflower	T	D	D	D	D
Upright prairieconeflower	T	I	D	D	D
Western ragweed	T	I	D	D	D
White prairieclover	T	D	D	D	D
<u>Shrubs</u> (5 to 10 percent)					
Arkansas rose	0-5	I	D	D	D
Broom snakeweed	0-5	I	D	D	D
Common pricklypear	0-5	I	I	I	D
Fringed sagewort	0-5	I	D	D	D
Leadplant	0-5	D	D	D	D
Skunkbush sumac	0-5	I	D	D	D
Small soapweed	0-5	I	D	D	D
Smooth sumac	0-5	I	D	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
2/ Naturalized introduced plant  
3/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	<u>Percent Climax Vegetation</u>	<u>AUM'S/Acre</u>	<u>Acres/AUM</u>
Excellent	76 to 100	.7	1.4
Good	51 to 75	.53	1.9
Fair	26 to 50	.35	2.9
Poor	0 to 25	.18	5.6

4. Total Annual Production

The total annual production when site is in excellent condition ranges from a low of 1,000 pounds per acre, air-dry weight, in unfavorable years, to a high of 2,250 pounds in favorable years.

5. Soils

The features common to all soils in this site are the calcareous surface layer, shallow depth to bedrock, and lack of significant moisture other than normal precipitation.

a. Characteristics

The soils in this site are well drained or somewhat excessively drained. The parent material is weathered sandstone, siltstone, or shale. The surface layer is calcareous and ranges from 3 to 8 inches thick. The texture ranges from loamy very fine sand to silty clay. Calcareous bedrock is at depths of 6 to 20 inches.

b. Major soil taxonomic units associated with this site are:

Bristow silty clay

Canyon loam

Gavins silt loam

Kipson silt loam

Mariaville loam

Mariaville silt loam

Tassel fine sandy loam

Tassel loamy very fine sand

Soil series descriptions are available in the county soil survey handbook or published soil survey.

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Thin Loess (TL)

MLRAs: 71, 73, 75, and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on very steep uplands that have been dissected by geologic erosion.

2. Climatic Features:

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

- a. The potential natural vegetation (climax) is about 80 percent grasses, 5 percent grasslike plants, 10 percent forbs, and 5 percent shrubs, based upon total annual production, air-dry weight. Big bluestem, little bluestem, and sideoats grama are the dominant species making up 55 percent or more of the total annual production. Blue grama, hairy grama, indiagrass, plains muhly, prairie sandreed, sedges, switchgrass, and numerous forbs and some shrubs are also important plants to the site.
- b. Relative percentages of the total plant community by weight and response to grazing by various kinds of animals:

<u>Grasses</u> (70 to 85 percent)	%	Grazing Response <u>1/</u>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Big bluestem	15-20	D	D	I
Blue grama	0-5	I	I	I
Canada wildrye	0-5	D	I	I
Hairy grama	0-5	I	I	I
Indiangrass	0-5	D	I	I
Kentucky bluegrass <u>2/</u>	0-5	I	I	I
Little bluestem	20-35	D	D	I
Needleandthread	0-5	I	I	I
Plains muhly	5-10	I	I	I
Porcupinegrass	0-5	D	I	I
Prairie junegrass	0-5	D	I	I
Prairie sandreed	0-5	I	I	I
Scribner panicum	0-5	I	I	I
Sideoats grama	10-20	D	D	I
Switchgrass	0-5	D	I	I
Tall dropseed	0-5	I	I	I
Western wheatgrass	0-5	I	I	I
<u>Grasslike Plants</u> (5 to 10 percent)				
Sedges (other)	0-5	I	I	I
Threadleaf sedge	5-10	I	I	I
<u>Forbs</u> (5 to 10 percent)				
Black samson	T <u>3/</u>	D	D	D
Blue verbena	T	I	D	D
Catclaw sensitivebriar	T	D	D	D
Dotted gayfeather	T	I	D	D
Flax	T	I	D	D
Fringed sagewort	T	I	D	D
Heath aster	T	I	D	D
Ironplant	T	I	D	D
Lambert crazyweed	T	I	D	D
Missouri goldenrod	T	I	D	D
Platte groundsel	T	I	D	D
Purple prairieclover	T	D	D	D
Rush skeletonplant	T	I	D	D
Scarlet gaura	T	I	D	D
Serrateleaf eveningprimrose	T	I	D	D
Shellleaf penstemon	T	I	D	D
Shorts milkvetch	T	D	D	D
Silverleaf scurfpea	T	I	D	D
Slimflower scurfpea	T	I	D	D
Upright prairieconeflower	T	I	D	D
Western ragweed	T	I	D	D
White prairieclover	T	D	D	D

<u>Shrubs</u> (5 to 10 percent)	%	<u>Grazing Response</u> <sup>1/</sup>		
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>
Arkansas rose	0-5	I	D	D
Broom snakeweed	0-5	I	D	D
Common pricklypear	0-5	I	D	I
Leadplant	0-5	D	D	D
Poisonivy	0-5	D	D	D
Small soapweed	0-5	I	D	D
Western snowberry	0-5	I	D	D

- 1/ "D" implies plant decreases under grazing pressure  
"I" implies plant increases under grazing pressure
- 2/ Naturalized introduced plant
- 3/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	Percent		<u>AUM'S/Acres</u>	<u>Acres/AUM</u>
	<u>Climax</u>	<u>Vegetation</u>		
Excellent	76	to 100	.6	1.7
Good	51	to 75	.45	2.2
Fair	26	to 50	.3	3.3
Poor	0	to 25	.15	6.7

4. Total Annual Production

The total annual production when site is in excellent range condition ranges from a low of 1,500 pounds per acre, air-dry weight, in unfavorable years, to a high of 2,750 pounds in favorable years.

5. Soils

The features common to all soils in this site are very steep slopes and lack of soil development in the deep silty loess material.

a. Characteristics

The soils in this site are excessively drained. The parent material is loess. In places there is a darkened surface layer that ranges from 3 to 8 inches thick, but in places the parent material is at the surface. The texture is mostly silt loam, but includes loam and very fine sandy loam. The soils are generally calcareous to the surface.

- b. Major soil taxonomic units associated with this site are:

Coly silt loam, 30 to 60 percent slopes  
Crofton silt loam, 30 to 60 percent slopes

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

- B. Major Uses and Interpretations:

SEE DISCUSSION FOR ALL RANGE SITES

- C. Field Office Distribution

NEBRASKA RANGE SITE DESCRIPTION

Range Site: Shallow to Gravel (SWG)

MLRAs: 63B, 65, 66, 71,  
75, and 102B

A. Physical Characteristics

1. Physiographic Features

The site occurs on stream terraces and uplands where gravelly sediments are deposited.

2. Climatic Features

SEE DISCUSSION FOR ALL RANGE SITES

3. Potential Natural Vegetation (Climax)

a. The potential natural vegetation (climax) is about 70 percent grasses, 5 percent grasslike plants, 15 percent forbs, and 10 percent shrubs, based upon total annual production, air-dry weight. Blue grama, little bluestem, needleandthread, prairie sandreed, and sand bluestem are the dominant species making up 60 percent or more of the total annual production. Hairy grama, purple lovegrass, sand dropseed, sideoats grama, clubmoss, and other forbs and shrubs are also important plants to the site.

b. Relative percentages of the total plant community, by weight, and response to grazing by various kinds of animals:

<u>Grasses</u> (70 to 90 percent)	%	Grazing Response <u>1/</u>			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Blue grama	15-20	I	I	I	I
Green needlegrass	0-5	D	I	I	I
Hairy grama	5-10	I	I	I	I
Little bluestem	10-15	D	D	I	I
Needleandthread	5-15	I	I	I	I
Prairie junegrass	0-5	D	I	I	I
Prairie sandreed	5-15	I	I	I	I
Purple lovegrass	0-5	I	I	I	I
Sand bluestem	10-25	D	D	I	I
Sand dropseed	5-10	I	I	I	I
Sand paspalum	0-5	I	I	I	I
Scribner panicum	0-5	I	I	I	I
Sideoats grama	5-10	D	D	I	I

<u>Grasslike Plants</u> (0 to 5 percent)	%	<u>Grazing Response</u> <sup>1/</sup>			
		<u>Cattle</u>	<u>Sheep</u>	<u>Deer</u>	<u>Antelope</u>
Sedges	0-5	I	I	I	I
<u>Forbs</u> (5 to 15 percent)					
Blue verbena	T <sup>2/</sup>	I	D	D	D
Clubmoss	5-10	I	D	D	D
Cudweed sagewort	T	I	D	D	D
Dotted gayfeather	T	I	D	D	D
Hairy goldaster	T	I	D	D	D
Heath aster	T	I	D	D	D
Ironplant	T	I	D	D	D
Lemon scurfpea	T	I	D	D	D
Purple prairieclover	T	D	D	D	D
Rush skeletonplant	T	I	I	I	I
Serrateleaf eveningprimrose	T	I	I	I	I
Shelleaf penstemon	T	I	I	I	I
Slender greenthread	T	I	I	I	I
Spiderwort	T	I	I	I	I
Upright prairieconeflower	T	I	I	I	I
Western ragweed	T	I	I	I	I
<u>Shrubs</u> (5 to 10 percent)					
Brittle pricklypear	0-5	I	I	I	D
Broom snakeweed	0-5	I	D	D	D
Common pricklypear	0-5	I	I	I	D
Fringed sagewort	0-5	I	D	D	D
Leadplant	0-5	D	D	D	D
Small soapweed	0-5	I	D	D	D

- 1/ "D" implies plant decreases under grazing pressure  
 "I" implies plant increases under grazing pressure  
 2/ Trace species or producing less than 2.5 percent of potential total annual yield.

c. Guide to Suggestive Initial Stocking Rates

<u>Condition Class</u>	<u>Percent Climax Vegetation</u>	<u>AUM'S/Acre</u>	<u>Acres/AUM</u>
Excellent	76 to 100	.6	1.7
Good	51 to 75	.45	2.2
Fair	26 to 50	.3	3.3
Poor	0 to 25	.15	6.7

4. Total Annual Production

The total annual production when site is in excellent condition ranges from a low of 750 pounds per acre, air-dry weight, in unfavorable years, to a high of 1,750 pounds in favorable years.

5. Soils

The feature common to all soils in this site is the shallow depth to sand or gravelly coarse sand.

a. Characteristics

The soils in this site are excessively drained. The parent material is coarse and very coarse alluvium and outwash materials. The surface layer is 5 to 8 inches thick and ranges in texture from gravelly very fine sandy loam to sand. The underlying material is sand to very gravelly coarse sand at a depth of 10 to 20 inches.

b. Major soil taxonomic unit associated with this site is:

Meadin loam  
Meadin silt loam  
Meadin sandy loam  
Meadin fine sandy loam  
Meadin loamy sand  
Meadin loamy fine sand  
Meadin gravelly sandy loam

Schamber gravelly very fine sandy loam  
Simeon loamy sand PE < 44  
Simeon loamy sand  
Simeon sandy loam  
Simeon sand

Soil series descriptions are available in the county soil survey handbook or published soil survey.

6. Range Site Type Location

B. Major Uses and Interpretations For:

SEE DISCUSSION FOR ALL RANGE SITES

C. Field Office Distribution

