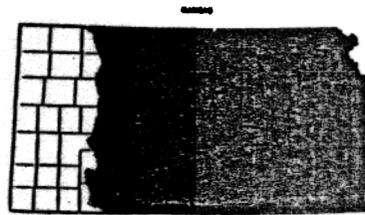


## SANDS

### KANSAS RANGE SITE DESCRIPTION

1. Location of Site:

Land Resource Areas 72 and 77  
Central High Table Land and  
Southern High Plains



2. Climate:

See climate for LRA's 72 and 77  
(Filed in the front of Section II-E)

3. Topography:

This site occurs on nearly level to undulating topography with associated low sand dunes.

4. Soils and Hydrological Characteristics:

a. The soils of this site have sandy surface layers and sandy, loamy, or clayey subsoils. The intake rate is rapid with stored moisture varying from low to high depending upon the texture of the subsoil.

b. The soils that characterize this site are:

Bowdoin lfs	Pratt lfs
Dalhart lfs	Tivoli lfs
Likes lfs	Vona lfs

c. These soils are highly susceptible to wind erosion when the vegetative cover is opened. Roads, trails, pipelines, overgrazing, and other disturbances can be the cause of severe wind erosion on this site.

5. Climax Vegetation:

a. Tall and mid grasses are the dominant species on this site. Sand bluestem, little bluestem, sideoats grama, and sand lovegrass make up approximately 65 percent of the potential vegetation on this site. A variety of forbs make up an additional 10 percent of the vegetation as does a combination of chickasaw plum, sandsage, and yucca. Some areas are dominated by yucca but most are dominated by sandsage.

In its development, the vegetation on this site was influenced by grazing and occasional wildfires. The grazing was predominantly by large transient herds of bison.



Caution should be taken when considering brush control on this site. In the absence of the taller grasses, brush control should be avoided or very limited unless revegetation is planned. Without the taller grasses present the areas where brush is controlled may be subject to wind erosion. Areas dominated by the less preferred grasses usually will not produce enough forage to economically justify brush control, before range improvement is accomplished.

When the site is dominated by sand dropseed and sand sagebrush, it is often necessary to reseed the site to return it to near its potential. Prior to making the decision to revegetate, it is usually advisable to apply 2 to 3 years of good management that includes scheduled rest periods during the growing season. At the end of this period sufficient quantities of the better forage species may show up so that revegetation is not necessary.

7. Wildlife Considerations:

Maintaining this site near its potential condition makes it excellent habitat for lesser prairie chicken and scaled quail. If the site is overgrazed, sand sagebrush will only partially fill the void left by the loss of taller grasses. Control of sand sagebrush without the presence of some of the taller grasses can be devastating to prairie chicken populations.

Lizards, small rodents, and numerous songbirds inhabit this site when near its potential. As the condition of the site decreases, so does its wildlife populations, especially rodents and birds.

8. Other Uses and Values:

The sandy nature of this site limits its use primarily to rangeland. Large areas, however, are cultivated successfully when high residue producing crops are grown and the residues are managed to prevent wind erosion.

The more level portions of this site are well suited to urban development.

9. Herbage Production Guidelines:

The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of principal forage species, time of burning, if fire is used, as well as growing conditions, influence annual herbage production.

<u>Growing Conditions</u>	<u>Total Air Dry Herbage</u>	
	<u>Pounds/Acre</u>	<u>Kilograms/Hectare</u>
Favorable	2,200-3,000	2,460-3,360
Normal	1,500-2,200	1,680-2,460
Unfavorable	1,000-1,500	1,120-1,680

10. Guide to Initial Stocking Rates:

<u>Range Condition</u>	<u>Percent Climax Vegetation</u>	<u>Acres/AU Yearlong</u>	<u>AU Months Per Acre</u>	<u>Hectares/AU Yearlong</u>	<u>AUM's per Hectare</u>
Excellent	76-100	18-22	.6	7-9	1.5
Good	51-75	22-25	.5	9-10	1.25
Fair	26-50	25-35	.4	10-14	1.00
Poor	0-25	35+	.3	14+	0.75

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

This site is not normally used for hay production

11. Relative Preference of Plant Species:

Preferences of plant species by classes of livestock and uses by wildlife will vary from year to year and season to season. The table below is what might be expected under average climatic conditions and good management.

Forage Preferences

H = High  
M = Medium  
L = Low

Wildlife Preferred Uses

C = Cover  
F = Food  
N = Nesting

Plant Species	Animal Species		
	Cattle	P. Chicken	Scaled Quail
big sandreed	M	C	C
blue grama	H	---	---
engelmann daisy	H	F	F
lemon scurfpea	L	C,F	C,F
Louisiana sagewort	L	F	---
little bluestem	H	C,N	C,N
prairie sandreed	M	C	C
prairie sunflower	L	C,F	C,F
sand bluestem	H	C,N	C,N
sand dropseed	M	---	---
sand lovegrass	H	C	C
sand sagebrush	L	C,F,N	C,F,N
sideoats grama	H	C	C
switchgrass	H <u>1/</u>	C,F,N	C,F,N
tenpetal mentzelia	L	C	C
Texas croton	L	F	F
western ragweed	M	F	F
yucca	L	C	C

1/ Preferred during first half of growing season

Reference:

Anderson, Kling L. and Clenton E. Owensby. 1969 Common Names of a Selected List of Plants. Kansas State University Tech. Bul. 117.

## SANDS

### KANSAS RANGE SITE DESCRIPTION

#### 1. Location of Site:

Land Resource Areas 74, 75, and 80A  
Central Kansas Sandstone Hills,  
Central Loess Plains, and  
Central Rolling Red Prairies



#### 2. Climate:

See climate for LRA's 74, 75, and 80A  
(Filed in the front of Section II-E)

#### 3. Topography:

The soils in this site are nearly level or undulating with some low dunes.

#### 4. Soils and Hydrological Characteristics:

- a. The surface of these soils is loamy fine sand with sandy subsoils. The intake rate is high with stored moisture varying from low to moderate depending upon the texture of the subsoil. Permeability is rapid or very rapid. These soils are well drained to excessively drained.
- b. The soils that characterize this site are:

Brazos, loamy fine sand	Tivoli, loamy fine sand
Pratt, loamy fine sand	Valentine
Sarpy, loamy sand, duned	
- c. These soils are highly susceptible to wind erosion when overgrazed. Roads, trails, pipelines, and other disturbances can be the cause of wind erosion on this site.

#### 5. Climax Vegetation:

- a. Tall grasses are the dominant species on this site. Big and/or sand bluestem, little bluestem, indiagrass, prairie and/or big sandreed, and switchgrass make up 65 to 70 percent of the potential vegetation on this site. A variety of forbs makes up about 10 percent of the vegetation. Although woody species make up about 5 percent of the vegetation, they are mostly found in scattered clusters or motts.

In its development, the vegetation on this site was influenced by grazing and wildfires. The grazing was predominantly by large transient herds of bison with lesser numbers of antelope, deer, and elk.

b. Guidelines For Determining Range Condition:

(Percentage of total production by weight)

<u>Grasses and Grasslike - 85 Percent</u>		<u>Forbs - 10 Percent</u>	<u>Shrubs - 5 Percent</u>
70	50 big or sand bluestem	annual eriogonum	American plum
	5 Canada wildrye	bracted spiderwort	5 chickasaw plum
	10 indiagrass	compassplant	prairie rose
	10 little bluestem	Illinois bundleflower	small soapweed
	10 prairie or big sandreed	Illinois tickclover	
	10 switchgrass	Louisiana sagewort	
10	5 blue grama	manyflower scurfpea	
	5 porcupinegrass	maximilian sunflower	
	5 sand dropseed	10 Missouri goldenrod	
	5 sideoats grama	plains beebalm	
	5 tall dropseed	prairie sagewort	
		purple prairieclover	
5	purpletop	roundhead lespedeza	
	sand lovegrass	showy partridgepea	
	sand paspalum	slimflower scurfpea	
	scribner panicum	stiff goldenrod	
	sedges	western ragweed	
		woolly verbena	
	Virginia tephrosia		
	yarrow		

c. Invaders common to this site are camphorweed, common sunflower, false buffalograss, Japanese brome, prairie threeawn, sandbur, sixweeks fescue, and tumblegrass.

6. Management Implications:

This site appears on undulating to rolling uplands. The loamy fine sand surface soils have a rapid intake rate and readily give up available moisture to plants. Big and/or sand bluestem is the dominant plant on this site along with significant amounts of little bluestem, indiagrass, prairie and/or big sandreed, and switchgrass.

Overgrazing with cattle rapidly reduces big and/or sand bluestem while continued overgrazing will reduce indiagrass, sandreeds, switchgrass, and Illinois bundleflower. Severe spot grazing is often a problem because of the grazing preferences for the portions of the site generally in depression areas. On overgrazed areas little bluestem and sideoats grama are the early increasers but will decrease with continued grazing pressure.

With continued overgrazing portions of the site and eventually the entire site will become dominated by lower successional species. Some of these species are blue grama, buffalograss, sand dropseed, sand paspalum, threeawns, and numerous annual and poor quality perennial forbs. Often the taller more productive species will remain in a much reduced condition. Two to three years of good grazing management should be applied before making a decision to invest in range seeding.

Grazing management that incorporates proper grazing use and scheduled rest periods, during the growing season, is necessary to maintain the productivity of this site. The same type of management will return this site to its potential provided sufficient remnants of the original plant community remain on the site.

#### 7. Wildlife Considerations:

Maintaining this site in near potential condition makes it excellent habitat for the prairie chickens and good feeding and nesting habitat for pheasant and quail. If the site is overgrazed, woody species will only partially fill the void left by the loss of taller grasses.

Lizards, small rodents, and numerous songbirds inhabit this site when near its potential. As the condition of the site decreases, so does their populations, especially the rodents and birds.

The forbs and understory grasses of this site often attract deer to graze, especially when adequate cover is nearby.

#### 8. Other Uses and Values:

The sandy nature of this site limits its use primarily to rangeland. However, large areas have been cultivated successfully where high residue crops are grown and the residues are managed to prevent wind erosion.

The more level portions of this site are well suited to urban development.

### 9. Herbage Production Guidelines:

The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of principal forage species, proper burning techniques, if used, as well as growing conditions, influence annual herbage production.

<u>Growing Conditions</u>	<u>Total Air Dry Herbage</u>	
	<u>Pounds/Acre</u>	<u>Kilograms/Hectare</u>
Favorable	4,000-5,000	4,480-5,600
Normal	3,000-4,000	3,360-4,480
Unfavorable	2,000-3,000	2,240-3,360

### 10. Guide to Initial Stocking Rates:

<u>Range Condition</u>	<u>Percent Climax Vegetation</u>	<u>Acres/AU Yearlong</u>	<u>AU Months Per Acre</u>	<u>Hectares/AU Yearlong</u>	<u>AUM's per Hectare</u>
Excellent	76-100	10-14	1.0	4-5.5	2.5
Good	51-75	14-18	.8	5.5-7.0	2.0
Fair	26-50	18-25	.6	7-10	1.5
Poor	0-25	25+	.4	10+	1.0

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

This site is not normally used for hay production.

**11. Relative Preference of Plant Species:**

Preferences of plant species by classes of livestock and uses by wildlife will vary from year to year and season to season. The table below is what might be expected under average climatic conditions and good management.

**Forage Preferences**

H = High  
M = Medium  
L = Low

**Wildlife Preferred Uses**

C = Cover  
F = Food  
N = Nesting

Plant Species	Animal Species			
	Cattle	Deer	Pheasant	Quail
big and/or sand bluestem	H	C	C,N	C,N
big and/or prairie sandreed	H	C	C	C
blue grama	H	F	---	---
chickasaw plum	L	C,F	C,F	C,F
Illinois bundleflower	H	F	C,F	C,F
indiangrass	H	C	C,N	C,N
Japanese brome	M <u>1/</u>	F	F	F
little bluestem	H	C	C,N	C,N
Louisiana sagewort	L	---	---	---
maximilian sunflower	H	F	C,F	C,F
porcupinegrass	H	F	C	C
roundhead lespedeza	M	F	F	F
sand lovegrass	H	F	C,F	C,F
sedges	M	F	---	---
sideoats grama	H	---	C	C
small soapweed	L	---	C	C
switchgrass	H <u>2/</u>	---	C,F,N	C,F,N
western ragweed	M <u>I/</u>	F	F	F

1/ Has a high preference during lush growth periods

2/ Preferred during first half of growing season.

**Reference:**

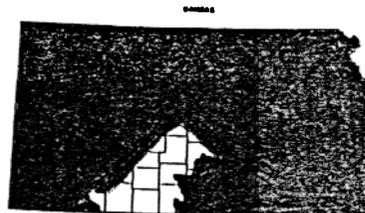
Anderson, Kling L. and Clenton E. Owensby. 1969 Common Names of a Selected List of Plants. Kansas State University Tech. Bul. 117.

## SANDS

### KANSAS RANGE SITE DESCRIPTION

#### 1. Location of Site:

Land Resource Areas 78 and 79  
Central Rolling Red Plains and  
Great Bend Sand Plains



#### 2. Climate:

See climate for LRA's 78 and 79  
(Filed in the front of Section II-E)

#### 3. Topography:

This site occurs on nearly level or undulating uplands with some low dunes.

#### 4. Soils and Hydrological Characteristics:

- a. The surface of these soils is loamy fine sand with sandy subsoils. The intake rate is high with stored moisture varying from low to moderate depending upon the texture of the subsoil. Permeability is rapid or very rapid. These soils are well drained to excessively drained.
- b. The soils that characterize this site are:

Croft, fine sand	Pratt, loamy fine sand
Likes, loamy sand	Tivoli, loamy fine sand
- c. These soils are highly susceptible to wind erosion when overgrazed. Roads, trails, pipelines, and other disturbances can be the cause of wind erosion on this site.

#### 5. Climax Vegetation:

- a. Tall grasses are the dominant species on this site. Big and/or sand bluestem, little bluestem, indiangrass, big sandreed, and switchgrass make up 70 to 75 percent of the potential vegetation on this site. A variety of forbs make up about 5 percent of the vegetation. Although woody species make up about 5 percent of the vegetation, they are mostly found in scattered clusters or motts.

In its development, the vegetation on this site was influenced by grazing and wildfires. The grazing was predominantly by large transient herds of bison with lesser numbers of antelope, deer, and elk.

b. Guidelines For Determining Range Condition:

(Percentage of total production by weight)

<u>Grasses and Grasslike - 90 Percent</u>		<u>Forbs - 5 Percent</u>	<u>Shrubs - 5 Percent</u>
75	50 big or sand bluestem	annual eriogonum	American plum
	10 big sandreed	bracted spiderwort	chickasaw plum
	5 Canada wildrye	compassplant	5 prairie rose
	10 indiagrass	Illinois bundleflower	sand sage
	10 little bluestem	Illinois tickclover	small soapweed
	10 switchgrass	Louisiana sagewort	
10	5 blue grama	manyflower scurfpea	
	5 sand dropseed	maximilian sunflower	
	5 sideoats grama	5 Missouri goldenrod	
	5 tall dropseed	plains beebalm	
		prairie sagewort	
5	purpletop	purple prairieclover	
	sand lovegrass	roundhead lespedeza	
	sand paspalum	showy partridgepea	
	scribner panicum	slimflower scurfpea	
	sedges	stiff goldenrod	
		Virginia tephrosia	
		western ragweed	
	woolly verbena		
	yarrow		

c. Invaders common to this site are camphorweed, common sunflower false buffalograss, Japanese brome, prairie threeawn, sandbur, sixweeks fescue, and tumblegrass.

6. Management Implications:

This site appears on undulating to rolling uplands. The loamy fine sand surface soils have a rapid intake rate and readily give up available moisture to plants. Big and/or sand bluestem is the dominant plant on this site along with significant amounts of little bluestem, indiagrass, big sandreed, and switchgrass.

Overgrazing with cattle rapidly reduces big and/or sand bluestem while continued overgrazing will reduce indiagrass, little bluestem, big sandreed, switchgrass, and Illinois bundleflower. Severe spot grazing is often a problem because of the grazing preferences for the portions of the site generally in depression areas. On overgrazed areas little bluestem and sideoats grama are the early increasers but will decrease with continued grazing pressure.

With continued overgrazing portions of the site and eventually the entire site will become dominated by lower successional species. Some of these species are blue grama, buffalograss, sand dropseed, sand paspalum, threeawns, and numerous annual and poor quality perennial forbs. Often the taller more productive species will remain in a much reduced condition. Two to three years of good grazing management should be applied before making a decision to invest in range seeding.

Grazing management that incorporates proper grazing use and scheduled rest periods, during the growing season, is necessary to maintain the productivity of this site. The same type of management will return this site to its potential provided sufficient remnants of the original plant community remain on the site.

7. Wildlife Considerations:

Maintaining this site in near potential condition makes it excellent habitat for the prairie chickens and good feeding and nesting habitat for pheasant and quail. If the site is overgrazed, woody species will only partially fill the void left by the loss of taller grasses.

Lizards, small rodents, and numerous songbirds inhabit this site when near its potential. As the condition of the site decreases, so does their populations, especially the rodents and birds.

The forbs and understory grasses of this site often attract deer to graze, especially when adequate cover is nearby.

8. Other Uses and Values:

The sandy nature of this site limits its use primarily to rangeland. However, large areas have been cultivated successfully where high residue crops are grown and the residues are managed to prevent wind erosion.

The more level portions of this site are well suited to urban development.

9. Herbage Production Guidelines:

The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of principal forage species, proper burning techniques, if used, as well as growing conditions, influence annual herbage production.

<u>Growing Conditions</u>	<u>Total Air Dry Herbage</u>	
	<u>Pounds/Acre</u>	<u>Kilograms/Hectare</u>
Favorable	3,500-4,500	3,920-5,040
Normal	2,500-3,500	2,800-3,920
Unfavorable	1,800-2,500	2,020-2,800

10. Guide to Initial Stocking Rates:

<u>Range Condition</u>	<u>Percent Climax Vegetation</u>	<u>Acres/AU Yearlong</u>	<u>AU Months Per Acre</u>	<u>Hectares/AU Yearlong</u>	<u>AUM's per Hectare</u>
Excellent	76-100	13-18	.8	5-7	2.0
Good	51-75	18-22	.6	7-9	1.5
Fair	26-50	22-30	.5	9-12	1.2
Poor	0-25	30+	.3	12+	.75

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

This site is not normally used for hay production

**11. Relative Preference of Plant Species:**

Preferences of plant species by classes of livestock and uses by wildlife will vary from year to year and season to season. The table below is what might be expected under average climatic conditions and good management.

**Forage Preferences**

H = High  
M = Medium  
L = Low

**Wildlife Preferred Uses**

C = Cover  
F = Food  
N = Nesting

Plant Species	Animal Species			
	Cattle	Deer	Pheasant	Quail
big and/or sand bluestem	H	C	C,N	C,N
big sandreed	H	C	C	C
blue grama	H	F	---	---
chickasaw plum	L	C,F	C,F	C,F
Illinois bundleflower	H	F	C,F	C,F
indiangrass	H	C	C,N	C,N
Japanese brome	M <u>1/</u>	F	F	F
little bluestem	H	C	C,N	C,N
Louisiana sagewort	L	---	---	---
maximilian sunflower	H	F	C,F	C,F
porcupinegrass	H	F	C	C
roundhead lespedeza	M	F	F	F
sand lovegrass	H	F	C	C
sedges	M	F	F	F
sideoats grama	H	---	C	C
small soapweed	L	---	C	C
switchgrass	H <u>2/</u>	---	C,F,N	C,F,N
western ragweed	M <u>I/</u>	F	F	F

1/ Has a high preference during lush growth periods.

2/ Preferred during first half of growing season.

**Reference:**

Anderson, Kling L. and Clenton E. Owensby. 1969 Common Names of a Selected List of Plants. Kansas State University Tech. Bul. 117.