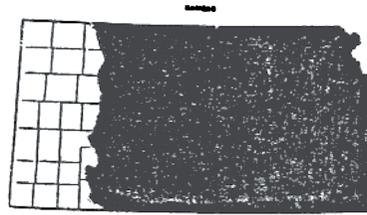


CHOPPY SANDS  
KANSAS RANGE SITE DESCRIPTION

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 undulating to steeply hummocky somewhat unstabilized sand dunes with "blow-outs" or "white caps" scattered throughout.

4. Soils and Hydrological Characteristics:

a. These deep soils have sandy surface layers and subsoils. They are excessively drained and the available water capacity is low.

b. The soils and land types that characterize this site are:

Active dunes  
Tivoli, fs

Blown-out land

c. If the vegetative cover on this site is disturbed, leaving the soil unprotected, it is highly susceptible to wind erosion.

5. Climax Vegetation:

a. The natural potential vegetation on this site is a mixed grass prairie with sand bluestem, prairie sandreed, switchgrass, and little bluestem making up about 60 to 70 percent of the total vegetation.

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

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 and Cacti - 5 Percent</u>	
70	10	giant sandreed	5	chickasaw plum pricklypear sand sagebrush small soapweed
	10	little bluestem		
	50	sand bluestem		
	10	sand lovegrass		
10	10	switchgrass	10	curlycup gumweed lemon scurfpea prairie sagewort prairie sunflower silky prairieclover tenpetal mentzelia western ragweed
	10	blue grama		
		hairy grama		
5	10	sideoats grama	T	annual eriogonum sand milkweed sweet sandverbena Texas croton whiteflower gilia
		blowoutgrass		
	giant dropseed			
	Indian ricegrass			
	sand dropseed			
	sand paspalum			
	scribners panicum			

c. Common invaders to this site include false buffalograss, sandbur, prairie threeawn, common sunflower, and red lovegrass.

6. Management Implications:

This site occurs on undulating to steeply hummocky somewhat unstabilized dunes known as sand hills. The available water capacity of this site is low. When left unprotected, the evaporation rate is high. These two factors make it essential that a good vegetative cover be maintained on this site.

Overgrazing with cattle on this site will result in decreased production of sand bluestem, switchgrass, little bluestem, and prairie sandreed. As these species are reduced, sand dropseed, sand paspalum, blue and hairy grama, and sand sagebrush will increase.

Continued overuse will result in the elimination of all tall and most mid grasses. In most cases, as the site starts to deteriorate the fine, sandy-textured surface starts to blow resulting in active sand dunes and blowouts.

The low available water capacity of the soil, coupled with poor management in the past, has left much of the area in this range site in poor condition. Preferred species of grass, if present, have a difficult time in maintaining themselves on this site, under continuous season long grazing.

A grazing system that incorporates proper stocking and periodic rest periods during the growing season will help to maintain a permanent vegetative cover on this site. It can also be effective in returning some of the desirable species to an improved condition.

7. Wildlife Considerations:

Due to the instability of this site, as well as its arid conditions, wildlife tend to avoid using the areas. If the site is in good to excellent condition, however, upland game birds may use the area for nesting cover.

The blowout areas may be used for booming grounds by lesser prairie chickens when suitable booming grounds are not available on the more level adjacent sands or sandy sites.

8. Other Uses and Values:

This site is frequently used by recreationists for running "dune buggies." However, this use is highly discouraged since it keeps the area disturbed, making it highly susceptible to wind erosion that may spread or deposit sand on better managed land that is nearby.

The fragile nature of the site makes its use very limited although some of this site has been successfully farmed under center-pivot irrigation systems. There have also been failures resulting in blowouts. Other areas have been incorporated into parks and golf courses.

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 and 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	1,500- ,000	1,629-2,172
Normal	1,000- ,500	1,086-1,629
Unfavorable	800- ,000	868-1,086

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	22-26	.5	9-11	1.25
Good	51-75	26-35	.4	11-14	1.0
Fair	26-50	35-50	.3	14-20	0.75
Poor	0-25	50+	.2	20+	0.5

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	Prairie Chicken	Pheasant
blue grama	H	---	---
curlycup gumweed	L	C	C
giant dropseed	M	C	C
giant sandreed	M	C	C
lemon scurfpea	L	C,F	C,F
little bluestem	H	C,N	C,N
prairie sunflower	L	C,F	C,F
pricklypear	L	---	---
sand bluestem	H	C,N	C,N
sand dropseed	M	C	C
sand lovegrass	H	C,N	C,N
sand paspalum	M	F	F
sand sagebrush	L	C,F,N	C,F,N
sideoats grama	H	C	C
silky prairieclover	H	F	F
switchgrass	H <u>1/</u>	C,F,N	C,F,N
Texas croton	L	F	F
western ragweed	M	C,F	C,F

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.

## CHOPPY SANDS

### KANSAS RANGE SITE DESCRIPTION

1. Location of Site:

Land Resource Areas 75, 78, 79, and 80A  
Central Loess Plains,  
Central Rolling Red Plains,  
Great Bend Sand Plains, and  
Central Rolling Red Prairies



2. Climate:

See climate for LRA's 75, 78, 79, and 80A  
(Filed in the front of Section II-E)

3. Topography:

This site occurs on undulating to steeply hummocky somewhat unstabilized sand dunes with occasional "blow-outs" or "white caps".

4. Soils and Hydrological Characteristics:

- a. These deep soils have sandy surface layers and subsoils. They are excessively drained and the available water capacity is low.
- b. The soil that characterizes this site is Tivoli, fine sand.
- c. If the vegetative cover on this site is disturbed, leaving the soil unprotected, it is highly susceptible to wind erosion.

5. Climax Vegetation:

- a. The natural potential vegetation on this site is a mixed grass prairie with sand bluestem, indiagrass, switchgrass, and little bluestem making up about 65 to 70 percent of the total vegetation. Two species found only on this site, are james dalea and big sandreed.

In its development, the vegetation on this site was influenced by grazing and occasional wildfires. The grazing was predominately by large transient herds of bison and lesser numbers of pronghorned antelope.

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 and Cacti - 5 Percent</u>
75	5 big or prairie sandreed	10	5
	10 indiangrass		
	15 little bluestem		
	50 sand bluestem		
	5 sand lovegrass		
10 switchgrass	10	5	
5 blue grama			
5 hairy grama			
sideoats grama			
5			bractless mentzelia
5	blowoutgrass	T	5
	giant dropseed		
	sand dropseed		
	sand paspalum		
	scribner panicum		
witchgrass	annual eriogonum		
		bracketed spiderwort	
		sand milkweed	
		Texas croton	
		whiteflower gilia	
		American plum	
		chickasaw plum	
		pricklypear	
		sand sagebrush	
		small soapweed	

c. Common invaders to this site include false buffalograss, purple sandgrass, sandbur, prairie threeawn, common sunflower, and red lovegrass.

6. Management Implications:

This site occurs on undulating to steeply hummocky somewhat unstabilized dunes known as sandhills. When left unprotected, the evaporation rate is high. It is essential that a good vegetative cover be maintained on this site.

Overgrazing with cattle on this site will result in decreased production of sand bluestem and indiangrass. Little bluestem and switchgrass may increase with initial overuse but will decrease if overgrazing continues.

Continued overuse will result in the elimination of most tall and mid grasses. Species such as sand lovegrass, sand dropseed, sand paspalum, sedges, western ragweed, camphorweed, prairie sagewort, and other forbs and weeds will tend to dominate the site. With severe deterioration of the vegetation, the sandy-textured surface may start to blow and develop active sand dunes and blowouts.

The low available water capacity of the soil, coupled with poor management in the past, has left portions of this range site in poor condition. Preferred species of grass, if present, have a difficult time in maintaining themselves on this site, under continuous season long grazing.

A grazing system that incorporates proper stocking and periodic rest periods during the growing season will help to maintain a permanent vegetative cover on this site. It can also be effective in returning vigor to the desirable species.

7. Wildlife Considerations:

Due to the instability of this site, as well as its arid conditions, wildlife tend to avoid using the areas. A few unique species of lizards and snakes use this and adjoining sites associated with choppy sands as preferred habitat. If the site is in good to excellent condition, however, upland game birds may use the area for nesting cover.

The blowout areas may be used for booming grounds by lesser prairie chickens when suitable booming grounds are not available on the more level adjacent sands or sandy sites.

8. Other Uses and Values:

This site is frequently used by recreationists for running "dune buggies." However, this use is highly discouraged since it keeps the area disturbed, making it highly susceptible to wind erosion that may spread or deposit sand on better managed land that is nearby.

The fragile nature of the site makes its use very limited although some of this site has been successfully farmed under center-pivot irrigation systems. There have also been failures resulting in blowouts. Other areas have been incorporated into parks and golf courses. In the last several years, housing has become popular in and around the sandhills.

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 and 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	2,500-3,500	2,800-3,900
Normal	1,800-2,500	2,000-2,800
Unfavorable	1,300-1,800	1,450-2,000

**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	15-18	.7	6-7	1.7
Good	51-75	18-25	.6	7-10	1.5
Fair	26-50	25-45	.4	10-18	1.00
Poor	0-25	45+	.2	18+	0.50

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	Prairie Chicken	Pheasant
big sandreed	M	C	C
blue grama	H	---	---
chickasaw plum	L	C,F	C,F
curlycup gumweed	L	C	C
giant dropseed	M	C,N	C,N
indiangrass	H	C,N	C,N
lemon scurfpea	L	C,F	C,F
little bluestem	H	C,N	C,N
prairie sunflower	L	C,F	C,F
pricklypear	L	---	---
sand bluestem	H	C,N	C,N
sand dropseed	M	C	C
sand paspalum	M	F	F
sideoats grama	H	C	C
silky prairieclover	H	F	F
switchgrass	H <u>1/</u>	C,F,N	C,F,N
Texas croton	L	F	F
western ragweed	M	C,F	C,F

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.