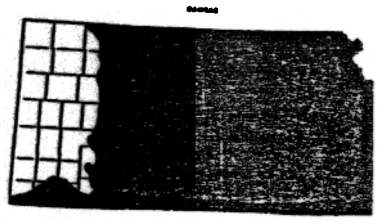
SHALE BREAKS

KANSAS RANGE SITE DESCRIPTION

1. Location of Site:



Land Resource Area 72
Central High Table Land

2. Climate:

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

3. Topography:

This site occurs on steep, broken side slopes in the valleys and entrenched drainageways.

4. Soils and Hydrological Characteristics:

a. The soils on this site have formed in material weathered from non-calcareous, dense clay shale. They are only 1 to 12 inches in depth over shale. The surface layer contains pebbles and small, angular fragments of limestone. Surface runoff is rapid, and available water capacity is low. This results in very poor growing conditions for existing vegetation.

b. The soil that characterizes this site is Lismas

c. The shallow, steep sloping soils are well drained with very slow permeability, low available water capacity, and low fertility. Water erosion is a severe hazard if the site is abused.

5. Climax Vegetation:

a. The potential vegetation on this site is dominated by mid and short grasses. Blue grama, sideoats grama, and western wheatgrass are the major forage plants and make up about 60 percent of the potential vegetation. The droughty nature of the site and the rough broken topography create a situation for a high percentage of forbs. Western ragweed and Louisiana sagewort are the dominants, but nineanther dalea may be the most visual on some site locations.

b. Guidelines for Determining Range Condition:

(Percentage of total production by weight)

Grasses and Grasslike - 85 Percent			Forbs - 15 Percent		Shrubs and Cacti - T	
	5	little bluestem		Louisiana sagewort		broom snakeweed
	25	sideoats grama	10	western ragweed	T	pricklypear
45	5	switchgrass				
	20	western wheatgrass		fendler aster		
				heath aster		
	25	blue grama	5	nineanther dalea		
35	10	buffalograss		scarlet globemallow		
	5	inland saltgrass				
		sand dropseed				
5		sedges				
		perennial threeawns				
T		hairy tridens				

c. Invaders common to this site are bottlebrush squirreltail, Japanese brome, kochia, little barley, prairie threeawn, russianthistle, and tumblegrass.

6. Management Implications:

This site is the rough topography of the shale outcrops of western Kansas. The rough topography, droughty soils, and open plant community emphasize the need for careful grazing management on this site.

Heavy grazing pressure by cattle results in the overgrazing of little bluestem, sideoats grama, switchgrass, and western wheatgrass. As these plants are overgrazed and reduced, they are initially replaced by increases in blue grama, buffalograss, Louisiana sagewort, inland saltgrass, sand dropseed, perennial threeawns, and pricklypear cactus.

Continued heavy use can eliminate the preferred species and greatly reduce the initial increasers. Common invaders such as bottlebrush squirreltail, Japanese brome, kochia, and tumblegrass then tend to increase and dominate the site.

Grazing management that includes proper stocking, efficient grazing distribution, and planned rest periods is beneficial in maintaining or improving this site. With the droughty nature of the site, improvement is generally slower on this site than on associated grazing areas.

7 Wildlife Considerations:

The plant composition generally associated with this site is not favorable for large wildlife numbers. However, forbs and scattered low brush create a suitable habitat for cover of upland birds, insects, and small mammals. Larger species such as deer and coyotes often use this site for feeding and occasional escape cover.

Grazing management that maintains a healthy and productive plant community is beneficial to wildlife utilizing this site. The major limiting factor for wildlife on this site is adequate food and plant cover. For some species the availability of water may be limiting. In this case water developments, including those for livestock distribution, are helpful.

8. Other Uses and Values:

The rough topography and droughty soils of this site limit its uses to rangeland, wildlifeland, and very restricted other uses.

This is a site with a rustic aesthetic view. It is especially attractive in the spring and summer when the forbs are blooming and in the winter when it has a snow cover.

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.

	Total Air Dry Herbage	
Growing Conditions	Pounds/Acre	Kilograms/Hectare
Favorable	1,100-1,300	1,230-1,460
Normal	800-1,100	900-1,230
Unfavorable	500-800	560-900

10. Guide to Initial Stocking Rates:

Range Condition	Percent Climax Vegetation	Acres/AU Yearlong	AU Months Per Acre	Hectares/AU Yearlong	AUM's per Hectare
Excellent	76-100	25-35	.4	10-14	1.0
Good	51-75	35-50	.3	14-20	.75
Fair	26-50	50-80	.2	20-32	.50
Poor	0-25	80+	.1	32+	.25

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.

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	Wildlife Preferred Uses
H = High	C = Cover
M = Medium	F = Food
L = Low	N = Nesting

Plant Species	Animal Species	
	Cattle	Deer
blue grama	H	---
buffalograss	H	---
fendler aster	L	F
heath aster	H	F
inland saltgrass	M	---
Japanese brome	M 1/	F 1/
little bluestem	H	C
Louisiana sagewort	L	F
nineanther dalea	L	F
perennial threeawn	L	---
sand dropseed	M	---
scarlet globemallow	L	F
sideoats grama	H	
silver bluestem	L	---
switchgrass	H 2/	C
tumblegrass	L	---
western ragweed	M	F
western wheatgrass	H	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.