

FLINT RIDGE  
KANSAS RANGE SITE DESCRIPTION

1. Location of Site:

Land Resource Area 76  
Bluestem Hills (Flint Hills)  
Chase, Butler, and Greenwood Counties



2. Climate:

See climate for LRA 76  
(Filed in the front of Section II-E)

3. Topography:

Occurs on gently sloping ridgetops with slopes of 1 to 5 percent.

4. Soils and Hydrological Characteristics:

- a. The surface soil is cherty silt loam 25 to 50 inches deep over cherty clay subsoil. Chert fragments are common on the surface as well as throughout the soil profile. Chert content of the soil ranges from 15 to 40 percent in the upper 22 inches and from 40 to 60 percent in the rest of the soil. This site is well drained. Permeability is moderate in the surface soil and very slow in the subsoil.
- b. The soil that characterizes this site is Matfield.
- c. Soil erosion usually is not a hazard unless very severe overgrazing occurs. This site is frequently found in an overgrazed condition because of its position in the landscape and accessibility by livestock.

5. Climax Vegetation:

- a. The natural potential vegetation on this site is a tall grass prairie. Big bluestem, little bluestem, indiagrass, switchgrass, and sideoats grama produce about 70 percent of the total vegetation. The vegetation on this site has developed under the influences of periodic fires and grazing, predominantly by large transient herds of bison and lesser amounts of 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>		
50	30	little bluestem	5   ceanothus leadplant		
	20	big bluestem			
	5	indiangrass			
20	15	5	5		
				sideoats grama	
				switchgrass	
15	10	5	5		
				blue grama	
				buffalograss	
				Canada wildrye	
				hairy grama	
				prairie junegrass	
				rosette panicums	
				sedges	
				tall dropseed	
				Virginia wildrye	
					aromatic aster
					blue wildindigo
	heath aster				
	Louisiana sagewort				
	Missouri eveningprimrose				
	Missouri goldenrod				
	plains wildindigo				
	pussytoes				
	serrateleaf eveningprimrose				
	slimflower scurfpea				
	stiff goldenrod				
	upright prairieconeflower				
	western ragweed				
	yarrow				

Common invader plants on this site include annual broomweed, common ragweed, Japanese brome, prairie threeawn, windmillgrass, and Kentucky bluegrass.

6. Management Implications:

This site is usually found in association with the loamy upland range site. Because of the droughty nature of this site and its accessibility by livestock, it is difficult to manage in a manner that maintains excellent range condition. Grazing distribution techniques are essential in managing this site for maximum forage production. Grazing management that provides systematic rest periods during the growing season will allow this site to produce near its potential.

Overgrazing with cattle results in the reduction of little bluestem, big bluestem, indiangrass, and switchgrass. Catclaw sensitivebriar, purple prairieclover, white prairieclover, groundplum milkvetch, and stiff sunflower are the principal forb decreaseers. Leadplant and ceanothus are the shrub decreaseers. Sideoats grama responds as an increaser with moderate overgrazing but declines rapidly as grazing pressure is increased.

Continued heavy use results in most of the preferred species being eliminated or reduced to very low vigor. The increaser species along with annual broomweed, Japanese brome, and prairie threeawn then become the dominant vegetation.

7. Wildlife Considerations:

When maintained in good to excellent condition, this site provides occasional nesting areas for prairie chickens. The variety of forbs and grasses on this site makes it a good feeding area for whitetail deer, quail, and numerous songbirds. Overgrazing reduces the availability of food and cover. Disturbed or closely grazed areas frequently are used by prairie chickens as booming grounds.

Once established, booming grounds are usually utilized by prairie chickens each year. They can be maintained by keeping the vegetation short in these areas. Grazing, salting, spot fires, or mowing are alternatives for providing attractive booming ground sites for prairie chickens.

8. Other Uses and Values:

This site, located on top of the highest ridges, is considered one of the best to view the surrounding Flint Hills landscape. Large panoramic vistas that frequently stretch up to 20 miles are attractive to the photographer. A wide variety of wildflowers present themselves throughout the growing season.

On the edges of this site where more steeply sloping terrain is encountered, chert rubble is present in many shapes and sizes. Numerous individuals collect this chert for decorative uses and construction purposes.

9. Herbage Production Guidelines:

The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of the 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	2200-3000	2500 3400
Normal	1500-2200	1700 2500
Unfavorable	1000-1500	1100 1700

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	18-23	.6	7-9	1.5
Good	51-75	23-30	.45	9-12	1.1
Fair	26-50	30-40	.35	12-16	.9
Poor	0-25	40+	.25	16+	.6

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	Sheep	Deer	P. Chicken
big bluestem	H	M	C	C,N
blue grama	H	H	F	--
Canada wildrye	H	H	F	F
catclaw sensitivebriar	H	H	F	F
ceanothus	H	H	F	C,F
dotted gayfeather	M	M	--	--
heath aster	M	M	F	--
indiangrass	H	M	C	C,N
Japanese brome	M <u>1/</u>	H <u>1/</u>	F	--
leadplant	H	H	CF	C,F
little bluestem	H	M	C	C,N
pussytoes	M	H	F	--
rosette panicums	M	M	--	F
sedges	M	M	F	--
sideoats grama	H	M	--	C
switchgrass	H <u>2/</u>	M <u>2/</u>	C	C,F,N
tall dropseed	M	L	C	C,N
western ragweed	M	M	--	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.