

## SAVANNAH

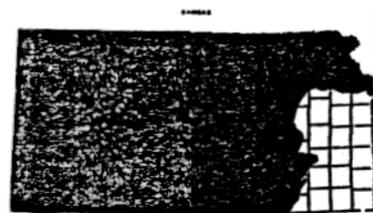
### KANSAS RANGE SITE DESCRIPTION

1. Location of Site:

Land Resource Areas 84A and 112  
(Cross Timbers and Cherokee Prairie)

2. Climate:

See climate for LRA's 84A and 112  
(Filed in the front of Section II-E)



3. Topography:

This site is dominantly on 0 to 15 percent slopes. However, some areas have slope gradients up to 40 percent.

4. Soils and Hydrological Characteristics:

a. The soils of this site have a loamy surface layer and a loamy or clayey subsoil. They are underlain by shale or sandstone at a depth of 20 to 40 inches. These soils readily absorb moisture and the underlying bedrock serves as a basin to trap and hold ground water during periods of heavy precipitation. The combination of soil and its underlying material provides a favorable soil-water-plant relationship.

b. The major soils that characterize this site are Niotaze and Stephenville.

c. This site is subject to severe gully erosion where livestock trailing and overgrazing occur.

5. Climax Vegetation:

a. The natural potential vegetation of this site consists of tall grasses with a scattered open overstory of post oak and blackjack oak. In this state big bluestem, little bluestem, indiagrass, and switchgrass produce about 65 percent of the vegetation. Post oak and blackjack oak produce about 10 percent of the vegetation.

b. Guidelines for Determining Range Condition:

(Percentage of total production by weight)

<u>Grasses and Grasslike - 75 Percent</u>		<u>Forbs - 10 Percent</u>	<u>Trees and Shrubs - 15 Percent</u>		
55	30 big bluestem	catclaw sensitivebriar	15 blackjack oak		
	25 little bluestem			fringeleaf ruellia	post oak
	10 indiagrass			grassleaf goldenrod	northern red oak
10	switchgrass	hairy tickclover	pignut hickory		
	Canada wildrye	10 hairy sunflower	T blackberry		
5	green muhly	sessile tickclover		flameleaf sumac	
	hairy grama	slender lespedeza		redbud	
	sideoats grama	stiff sunflower		roughleaf dogwood	
	Virginia wildrye	tall goldenrod		smooth sumac	
5	purple lovegrass	Virginia tephrosia			
	purpletop tridens	white crownsbeard			
	rosette panicums	wingstem			
	sedges	baldwin ironweed			
		beebalm			
		blackeyedsusan			
		clasping coneflower			
		grayhead prairieconeflower			
		inland ironweed			
		kuhnia			
		Louisiana sagewort			
		Missouri goldenrod			
		plains larkspur			
		pussytoes			
		spotted joepyeweed			
		upright prairieconeflower			
		western ragweed			

c. Common invaders to the site include annual broomweed, broomsedge, buckbrush, common lespedeza, Japanese brome, Korean lespedeza, lanceleaf ragweed, prairie threeawn, puffsheath dropseed, red cedar, splitbeard bluestem, and tall dropseed.

6. Management Implications:

Maintaining control of the woody vegetation is the major consideration on this site. A combination of proper use, prescribed burning, and the use of brush management techniques are necessary to maintain this site near its potential.

Overgrazing with cattle will result in an increase of the post oak blackjack oak, and the other associated species. In the early stages of degression, tall dropseed, broomsedge, purpletop, and annual grasses increase rapidly. Excessive grazing by cattle results in an overstory of oaks and an understory of buckbrush, shade-tolerant annuals, rosette panicums, and sedges.

Sheep and goats have frequently been used to control woody species and shrubs on this range site. Overgrazing with sheep results in the elimination of the forbs and a slow reduction of the major grass species. Continued overgrazing will result in a canopy of oak with an understory of annual grasses.

Overgrazing with goats can result in all woody species, except large trees and forbs, being eliminated from the site. With continued overgrazing, only prairie threeawn and Japanese brome survive

On cattle operations, dormant season grazing may be used to give the primary grasses a competitive edge over the woody vegetation. A complete lack of grazing may also result in the site becoming dominated by woody vegetation.

Maintaining a balance between the herbaceous and woody vegetation on this site takes a high level of management. The fire tolerance of many of the woody species on this site often requires a combination of practices. Practices such as proper stocking, prescribed burning, planned grazing systems, and selecting the proper grazing animals are needed to improve and maintain the vegetation on this site. Approved herbicides may be necessary to help manage persistent or excessive woody species.

7 Wildlife Considerations:

When maintained in good to excellent condition, this site provides habitat for numerous wildlife species. The combination of tall grasses, forbs, shrubs, and trees provides food, nesting, and loafing cover for deer, quail, numerous songbirds, and small mammals. It may also be suitable habitat for wild turkey when properly managed.

Maintaining adequate woody vegetation for travel lanes and escape cover is necessary for maximum wildlife populations. When practicing brush management, the maintenance of well planned brush patterns can enhance the habitat for most game animals and songbirds. This usually requires that 25 to 35 percent of the area be maintained in woody vegetation.

8. Other Uses and Values:

This site provides an excellent contrast to other land forms normally found in association with it. The combination of islands of trees with open grassland makes this an attractive site for homes, farmsteads, or ranch headquarters.

The contrasting vegetation with a wide selection of native flowering plants provides a setting for hunters, campers, backpackers, and other types of recreation. Selective brush management and good grazing management are essential to maintain the multiple use options provided by this site.

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	4500-5500	5000-6100
Normal	3500-4500	3900-5000
Unfavorable	2500-3500	2800-3900

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	10-13	1.1	4-5	2.75
Good	51-75	13-20	.8	5-7	2.0
Fair	26-50	20-30	.5	7-12	1.25
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	Sheep	Goats	Deer	Quail
baldwin ironweed	L	M	M	---	F
big bluestem	H	M	M	C	C,N
blackberry	L	L	L	F	C,F
blackjack oak	L	M	H	C,F	C
Canada wildrye	H	H	M	F	---
catclaw sensitivebriar	H	H	H	F	F
hairy sunflower	H	H	H	F	F
indiangrass	H	M	M	C	C,N
little bluestem	H	M	M	C	C,N
pignut hickory	L	M	M	C	C
post oak	L	M	H	C,F	C
redbud	L	L	L	C	C
rosette panicums	M	M	M	---	F
roundhead lespedeza	H	H	H	F	F
smooth sumac	L	L	M	C	C
switchgrass	H <u>2/</u>	L	M	C	C,F
Virginia tephrosia	H	H	H	F	F
western ragweed	M	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.

## SAVANNAH

### KANSAS RANGE SITE DESCRIPTION

#### 1. Location of Site:

Land Resource Areas 106 and 107  
Nebraska and Kansas Loess-Drift Hills  
and Iowa and Missouri Deep Loess Hills



#### 2. Climate:

See climate for LRA's 106 and 107  
(Filed in the front of Section II-E)

#### 3. Topography:

This site is dominantly on 3 to 15 percent slopes. However, some areas have slope gradients up to 40 percent.

#### 4. Soils and Hydrological Characteristics:

a. The soils in this site have a loamy or silty surface layer and silty, loamy, or clayey subsoil. Most of the soils are more than 60 inches deep over bedrock and formed in loess or glacial material. A few soils are moderately deep over shale. They have moderate or moderately slow permeability. There is a favorable soil-water-plant relationship.

b. The major soils that characterize this site are:

Armster	Ladoga
Gara	Welda

c. This site is subject to severe gully erosion where livestock trailing and overgrazing occur.

#### 5. Climax Vegetation:

a. The natural potential vegetation on this site consists of tall grasses with a scattered open overstory of oak and hickory. In this condition big bluestem, little bluestem, indiagrass, and switchgrass produce about 65 percent of the vegetation. Oak and hickory account for an additional 15 percent of the vegetation.

b. Guidelines for Determining Range Condition:

(Percentage of total production by weight)

<u>Grasses and Grasslike - 75 Percent</u>		<u>Forbs - 10 Percent</u>	<u>Trees and Shrubs - 15 Percent</u>
55	big bluestem little bluestem indiangrass	catclaw sensitivebriar fringeleaf ruellia grassleaf goldenrod hairy tickclover	15 bitternut hickory black oak northern red oak pignut hickory post oak shagbark hickory
10	switchgrass	hairy sunflower roundhead lespedeza sessile tickclover	
5	Canada wildrye green muhly hairy grama sideoats grama Virginia wildrye	10 slender lespedeza stiff sunflower tall goldenrod Virginia tephrosia wingstem	T blackberry flameleaf sumac eastern redbud roughleaf dogwood smooth sumac
5	purple lovegrass purpletop rosette panicums sedges	T baldwin ironweed beebalm blackeyedsusan clasping coneflower grayhead prairieconeflower falseboneset Louisiana sagewort Missouri goldenrod plains larkspur pussytoes spotted joepyeweed upright prairieconeflower western ragweed	

c. Common invaders to the site include annual broomweed, broomsedge, buckbrush, common lespedeza, Japanese brome, Korean lespedeza, lanceleaf ragweed, prairie threeawn, puffsheath dropseed, red-cedar, and tall dropseed.

6. Management Implications:

This site is on sideslopes and narrow convex ridges in uplands. The slopes typically are 3 to 12 percent but range from 0 to 45 percent.

Maintaining control of the woody vegetation is the major consideration on this site. A combination of proper use, prescribed burning, and the use of brush management techniques is necessary to maintain this site near its potential.

Overgrazing with cattle will result in an increase of the oak, hickory, and other associated species. In the early stages of regression, tall dropseed, purpletop, and annual grasses increase rapidly. Excessive grazing by cattle results in an overstory of oak-hickory and an understory of buckbrush, shade-tolerant annuals, rosette panicums, and sedges.

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Unfavorable	2500-3200	2700-3500

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big bluestem	H	M	M	C	C,N
blackberry	L	L	L	F	C,F
black oak	L	M	H	C,F	C,F
Canada wildrye	H	H	M	F	C,F
catclaw sensitivebriar	H	H	H	F	F
eastern redbud	L	L	L	C	C
hairy sunflower	H	H	H	F	C,F
indiangrass	H	M	M	C	C,N
little bluestem	H	M	M	C	C,N
northern red oak	L	M	H	C,F	F,C
pignut hickory	L	M	M	C	C
rosette panicums	M	M	M	---	F
roundhead lespedeza	H	H	H	F	F
smooth sumac	L	L	M	C	C,F
switchgrass	H <u>1/</u>	L	M	C	C,F,N
Virginia tephrosia	H	H	H	F	F
western ragweed	M	M	M	---	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.