

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XB062NM

Site Name: Shallow Sand

Precipitation or Climate Zone: 13 to 16 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site is on nearly level to gently undulating soils of the upland. Slopes range from 0 to 5 percent. Exposure varies and is not significant. Elevation ranges from about 4,400 to 6,000 feet above sea level.

Land Form:

1. Plain

2.

3.

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	4,400	6,000
Slope (percent)	0	5
Water Table Depth (inches)	N/A	N/A
	Minimum	Maximum
Flooding:		
Frequency	N/A	N/A
Duration	N/A	N/A
	Minimum	Maximum
Ponding:		
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of this area can be classified as “semi-arid continental”.

Annual average precipitation ranges from 13 to 16 inches. About seventy eight percent of the moisture usually falls during the six-month period of May through October. Most of this summer precipitation falls in the form of brief and heavy afternoon and evening thunderstorms. Hail may accompany the more severe summer storms. In the winter, there is normally only one day a month when as much as one-tenth inch of moisture falls, usually in the form of snow. Snow seldom lies on the ground for more than a few days.

Temperatures are characterized by a distinct seasonal change and large annual and diurnal temperature ranges. Summers are moderately warm. Maximum temperature average above 90 degrees F from July to August and an average summer includes about 80 days with high readings exceeding 90 degrees F and 10 days with readings above 100 degrees F. Temperatures usually fall rapidly after sundown and low of 60 degrees F on most summer nights. Winters are mild, sunny and dry. Daytime shade temperatures in midwinter usually rise to the 50's. However, freezing temperatures normally occur at night from mid-November to mid-March.

The freeze-free season ranges from 190 to 197 days. Dates of the last freeze are April 11th to April 17th and the first freeze varies from October 20th to October 25th.

Both temperature and rainfall distribution favor warm-season, perennial plant communities in the area. However, sufficient late winter and early spring moisture allows a cool-season species to occupy a minor component within the plant community

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	<u>164</u>	<u>196</u>
Freeze-free period (days):	<u>190</u>	<u>218</u>
Mean annual precipitation (inches):	<u>13</u>	<u>16</u>

Monthly moisture (inches) and temperature (°F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.23	0.46	21.6	57.3
February	0.30	0.44	24.0	59.2
March	0.46	0.65	29.1	68.0
April	0.36	0.92	36.3	78.3
May	0.42	1.68	45.7	82.6
June	1.20	1.86	52.2	91.2
July	2.03	2.73	59.1	92.9
August	2.09	2.75	58.1	91.0
September	1.65	1.92	51.1	84.8
October	1.23	1.93	40.1	74.7
November	0.46	0.88	28.9	63.0
December	0.37	0.62	22.1	54.6

Climate Stations:

Station ID	Location	From:	To:	Period
290205	Alamogordo Dam, NM	1972	2000	
293292	Fort Sumner, NM	01/01/14	2000	
297254	Ramon 8SW, NM	03/04/57	122/31/01	
298596	Sumner Lake, NM	01/01/21	12/31/01	
299851	Yeso, NM	01/01/48	12/31/01	

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils are well drained, shallow and very shallow over hard caliche. The surface texture is sandy loam or loamy sand 6 to 20 inches thick. Permeability is rapid. The available water-holding capacity is very low. The plant-soil-water-air relationship is good.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Fine sandy loam
2. Cobbly fine sandy loam
3. Loam
4. Gravelly loam
5. Very fine sandy loam

Surface Texture Modifier:

1. Gravel
2. Cobble
- 3.

Subsurface Texture Group: Loamy

Surface Fragments <=3" (% Cover): 15 to 35

Surface Fragments >3" (% Cover): 15 to 35

Subsurface Fragments <=3" (%Volume): 15 to 35

Subsurface Fragments >=3" (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Very slow	Moderately rapid
Depth (inches):	4	20
Electrical Conductivity (mmhos/cm):	0.00	2.00
Sodium Absorption Ratio:	0.00	0.00
Soil Reaction (1:1 Water):	7.4	8.4
Soil Reaction (0.1M CaCl₂):	N/A	N/A
Available Water Capacity (inches):	3	6
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label:** HCPC

Plant Community Narrative: Historic Climax Plant Community

This site is a grassland dominated by warm-season short and mid-grasses dotted with shrubs and half-shrubs. Forbs and woody species make up less than 20 percent of the plant community and are evenly distributed. Cool-season grasses and forbs make up a minor component of the community.

*In areas where mesquite has invaded, the potential plant community should include this species.

Canopy Cover:

Trees	0
Shrubs and half shrubs	5 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	25
Bare ground	40
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	30
Litter (average depth in cm.)	3

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	360	740	1,120
Forb	45	93	140
Tree/Shrub/Vine	45	93	140
Lichen			
Moss			
Microbiotic Crusts			
Total	450	925	1,400

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2	Blue Grama	185 – 204	185 – 204
2	BOER4	Black Grama	157 – 176	157 – 176
3	BOCU	Sideoats Grama	139 – 176	139 – 176
4	SCSC	Little Bluestem	46 – 65	46 – 65
5	BOHI2	Hairy Grama	46 – 65	46 – 65
6	HENE5	New Mexico Feathergrass	56 – 74	56 – 74
7	SPCR	Sand Dropseed	23 – 46	23 – 46
8	ARIST MUAR2	Threeawn spp. Sand Muhly	19 – 37	19 – 37
9	SEVU2	Plains Bristlegrass	9 – 23	9 – 23
10	DICA5	Arizona Cottontop	0 – 19	0 – 19
11	BUDA	Buffalograss	0 – 46	0 – 46

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	PLPA2 CRPOP VEPO4	Woolly Indianwheat Leather Croton Verbena	23 – 46	23 – 46
13	SPHAE ERAN4 BRASS2	Globemallow Annual Buckwheat Annual Mustard	19 – 37	19 – 37
14	OXYTR	Locoweed spp.	0 – 19	0 – 19
15	2EP	Other Perennial Forbs	19 – 37	19 – 37
16	2EA	Other Annual Forbs	19 – 37	19 – 37

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
17	YUGL	Small Soapweed Yucca	23 – 46	23 – 46
18	RHTR	Skunkbush Sumac	0 – 37	0 – 37
19	ACGR	Catclaw Acacia	0 – 19	0 – 19
20	KRLA2	Winterfat	9 – 19	9 – 19
21	GUSA2 SENEC	Broom Snakeweed Groundsel spp.	9 – 19	9 – 19
22	PROSO	Mesquite* spp.	0 – 19	0 – 19

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth Curves

Growth Curve ID 4012NM

Growth Curve Name: HCPC

Growth Curve Description: Warm-season short and mid-grass grassland with minor components of forbs and shrubs.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	5	10	25	30	15	7	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats, which supports a resident animal community characterized by pronghorn antelope, black-tailed jackrabbit, spotted ground squirrel, plains pocket mouse, southern plains woodrat, horned lark, scaled quail, side blotched lizard and round-tailed horned lizard.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations

Soil Series	Hydrologic Group
Blakeney	C
Conger	C, D
Kimbrough	D
Kolar	D
Neso	D
Sharvana	C

Recreational Uses:

Recreation potential is limited. Suitability for camping, picnicking and hiking is fair, limited mainly by lack of live water and the lack of shade. Hunting is good for antelope, quail dove and small game. The terrain typical of the “wide open spaces” of the area enhances aesthetic appeal. The natural beauty of this site is enhanced by the large variety of flowering plants that bloom from early spring to late fall with the availability of precipitation.

Wood Products:

This site produces no wood products.

Other Products:

Grazing:

All classes and kinds of livestock can graze this site during any season of the year. Approximately 90 percent of the total yield are from species that furnish forage for grazing animals. These species are a large variety of grasses and forbs, which provide good forage and nutrition for grazing animals during most of the year. Supplemental protein is needed during the winter months. Due to the potential of this site to produce forbs it may favor grazing by sheep and antelope. Continuous yearlong grazing by cattle or continual grazing during the period from April through October will cause the site to deteriorate and become less productive. Species, such as little bluestem, sideoats grama, black grama, plains bristlegrass, New Mexico feathergrass and winterfat, will decrease in composition of the plant community. Species such as blue grama, sand dropseed, threeawn spp., yucca and broom snakeweed will increase under deteriorated conditions. A system of deferred grazing, which varies the season of rest and grazing during successive years, is needed to maintain or to improve a healthy well-balanced plant community. Deferment during different season of the year benefits different species. Rest during the winter benefits winterfat. Also, cattle show a definite preference to black grama during the late winter, and it can be over utilized. Winter rest will reduce the grazing pressure on black grama. Spring rest (April-June) will benefit cool-season grasses such as New Mexico feathergrass and early forbs. Summer rest will benefit warm-season species such as little bluestem, sideoats grama, black grama and blue grama. Fall rest will allow the warm-season plants to complete their growth cycle and mature.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	2.4 – 4.1
75 – 51	3.1 – 6.5
50 – 26	4.0 – 9.0
25 – 0	9.0+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	<i>Bouteloua curtipendula</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
New Mexico Feathergrass	<i>Hesperostipa neomexicana</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Little Bluestem	<i>Schizachyrium scoparium</i>	EP	D	D	D	D	P	P	P	P	D	D	D	D
Black Grama	<i>Bouteloua eriopoda</i>	EP	P	P	P	D	D	D	D	D	D	D	P	P
Plains Bristlegrass	<i>Setaria vetipula</i>	EP	D	D	D	D	P	P	P	P	D	D	D	D
Arizona Cottontop	<i>Digitaria californica</i>	EP	U	U	U	U	U	P	P	D	U	U	U	U
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	D	D	P	P	P	P	P	P	D	D	D	D

Animal Kind: Livestock

Animal Type: Horse

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Blue Grama	<i>Bouteloua gracilis</i>	EP	D	D	D	D	P	P	P	P	D	D	D	D
Sideoats Grama	<i>Bouteloua curtipendula</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
New Mexico Feathergrass	<i>Hesperostipa neomexicana</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Black Grama	<i>Bouteloua eriopoda</i>	EP	P	P	P	D	D	D	D	D	D	D	P	P

Animal Kind: Livestock

Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Wildlife

Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Croton	Croton spp	EP	D	D	D	D	D	D	D	D	D	D	D	D
Astragalus	Astragalus spp	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: New Mexico

County: De Baca, Guadalupe, Roosevelt

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? Yes No

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: San Miguel, Quay, Guadalupe, De Baca and Chaves

Characteristic Soils Are:

Blakeney	Conger
Kimbrough	Kolar
Neso	Sharvana

Other Soils included are:

Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester		Don Sylvester	

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	11/27/02	George Chavez	2/11/03