

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XB054NM

Site Name: Sandy Loam

Precipitation or Climate Zone: 13 to 16 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on level to gently sloping areas of the plains upland. Elevation ranges from approximately 3,600 to about 5,500 feet above sea level. Slopes range from 0 to 8 percent. Exposure varies and is not significant.

Land Form:

1. Plain

2.

3.

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	3,600	5,500
Slope (percent)	0	8
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:

This site consists of soils that are deep and well drained. The surface layer is fine sandy loam about 6 to 18 inches thick. The subsoil is medium and moderately fine textured. They are argillic or cambic horizons and may overlie calcic horizons. These soils have medium to high intake rates and a good water-holding characteristic. The air-water-plant relationship is favorable for plant growth. The ability of these soils to absorb moisture quickly makes them more responsive to light or erratic rainfall than adjacent sites having heavier textured surface layers. Effective rooting depth ranges from 20 inches to more than 60 inches.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Fine sandy loam
2. Sandy loam
3.

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Loamy

Surface Fragments <=3" (% Cover): N/A

Surface Fragments >3" (% Cover): N/A

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

Subsurface Fragments >=3" (%Volume): N/A

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Impermeable	Moderately rapid
Depth (inches):	20	>72
Electrical Conductivity (mmhos/cm):	0.00	8.00
Sodium Absorption Ratio:	0.00	4.00
Soil Reaction (1:1 Water):	6.6	9.0
Soil Reaction (0.1M CaCl₂):	N/A	N/A
Available Water Capacity (inches):	3	9
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 with a mixture of warm-season short and mid-grasses dotted with an occasional half-shrub. Perennial and annual forbs make up approximately 15 percent of the plant community. Half-shrubs make up a minor portion 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	30
Bare ground	35
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	640	960	1,280
Forb	120	180	240
Tree/Shrub/Vine	40	60	80
Lichen			
Moss			
Microbiotic Crusts			
Total	800	1,200	1,600

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	SCSC	Little Bluestem	120 – 156	120 – 156
2	BOCU	Sideoats Grama	180 – 240	180 – 240
3	BOGR2 BOHI2	Blue Grama Hairy Grama	240 – 300	240 – 300
4	BOER4	Black Grama	180 – 204	180 – 204
5	SEVU	Plains Bristlegrass	60 – 84	60 – 84
6	SPCR	Sand Dropseed	36 – 60	36 – 60
7	ERSE	Red Lovegrass	36 – 60	36 – 60
8	DICOA	Fall Witchgrass	0 – 24	0 – 24
9	MUAR2	Sand Muhly	0 – 24	0 – 24
10	HENE5	New Mexico Feathergrass	36 – 60	36 – 60
11	ARIST	Threeawn spp.	36 – 60	36 – 60
12	DECA8	Arizona Cottontop	24 – 48	24 – 48

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	SPHAE	Globemallow	24 – 48	24 – 48
14	HOGL2	Indian Rushpea	12 – 36	12 – 36
15	CROTO	Croton	12 – 36	12 – 36
16	ERAN4 MEMU3 DALEA	Annual Buckwheat Stickleaf Dalea	12 – 36	12 – 36
17	2FP	Other Perennial Forbs	36 – 60	36 – 60
18	2RA	Other Annual Forbs	36 – 60	36 – 60

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
19	YUCCA	Yucca spp.	36 – 60	36 – 60
20	GUSA2	Broom Snakeweed	12 – 36	12 – 36
21	KRLA2	Winterfat	0 – 24	0 – 24
22	EPVI	Mormon-tea	0 – 24	0 – 24
23	ARFI2 OPPO PACAL5	Sand Sagebrush Plains Pricklypear Cactus Wooly Groundsel	0 – 24	0 – 24
24	PRGL2	Mesquite*	0 – 24	0 – 24

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 4004NM

Growth Curve Name: HCPC

Growth Curve Description: Grassland with a mixture of warm-season short and mid-grasses and minor components of forbs and shrubs.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats, which support a resident animal community that is characterized by pronghorn antelope, badger, northern grasshopper mouse, yellow faced pocket gopher, marsh hawk, meadowlark, lesser earless lizard, western diamondback rattlesnake and hognose snake.

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
Alama	B
Arch	B
Berthoud	B
Berwolf	B
Canez	B
Chispa	B
Faskin	B
Ima	B
La Lande	B
Los Tanos	C
Minneosa	B
Montoya Variant	C
Pojo	C
Quay	B
Ratliff	B
Redona	B
Reeves	B
Sharvana	C
Springer	B, C
Walkon	C

Recreational Uses:

Recreation potential is limited. Suitability for camping, picnicking and hiking is fair, limited mainly by lack of live water and 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 95 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 continual grazing. Mesquite will easily invade this site under deteriorated conditions. A system of deferred grazing, which varies the season of rest and grazing during successive years, is needed to maintain or improve a healthy well-balanced plant community. Deferment during different seasons 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 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 plant to complete their growth cycle.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	2.0 – 4.3
75 – 51	2.6 – 5.5
50 – 26	3.8 – 8.0
25 – 0	8.0+

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	P	P	P	P	D	D	D	D	D
Black Grama	<i>Bouteloua eriopoda</i>	EP	P	P	P	D	D	D	D	D	D	D	P	P
Bottlebrush Squirreltail	<i>Elymus elymoides</i>	EP	U	U	D	D	D	U	U	U	D	D	D	U
Plains Bristlegrass	<i>Setaria vulpiseta</i>	EP	D	D	D	D	P	P	P	P	P	D	D	D
Arizona Cottontop	<i>Digitaria californica</i>	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
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Annual Sunflower	<i>Helianthus annuum</i>	EP	U	U	U	U	U	D	D	D	U	U	U	U

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	P	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
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	P	P	P	P	P	P	P	P	P	P	P	P

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
Annual Sunflower	<i>Helianthus annuum</i>	EP	U	U	U	U	U	D	D	D	U	U	U	U
Croton	<i>Croton spp.</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D

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: Mora, San Miguel

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:

Alama, Arch, Berthoud, Berwolf, Canez	Chispa, Faskin, Ima, La Lande, Los Tanos
Minneosa, Montoya Variant, Pojo, Quay, Ratliff	Redona, Reeves, Sharvana, Springer, Walkon

Other Soils included are:

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	07/26/78	Don Sylvester	07/26/78

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	11/08/02	George Chavez	2/11/03