

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XB073NM

Site Name: Sandy Loam Cool

Precipitation or Climate Zone: 13 to 16 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on level to gently sloping or undulating piedmont slopes or plains. Slopes average less than 10 percent but will range as high as 15 percent. Aspect varies but is not significant. Elevation ranges from 5,000 to 7,000 feet above sea level

Land Form:

1. Wash
2. Alluvial flat
- 3.

Aspect:

1. N/A
- 2.
- 3.

	Minimum	Maximum
Elevation (feet)	5,000	7,000
Slope (percent)	<10	15
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. Variations of 5 inches, more or less, are not uncommon. Seventy five percent of the moisture usually falls during the six-month period of April through October. Most of this summer precipitation comes in the form of high intensity-short duration thunderstorms.

Temperatures are characterized by a distinct seasonal change and large annual and diurnal temperature ranges. The Average annual temperature is about 50 degrees F with extremes of – 29 degrees F in the winter and 103 degrees F in the summer.

The average frost-free season is 130 to 160 days. The last killing frost falling in early May and the first killing frost in early October.

Both temperature and rainfall distribution favor warm-season, perennial plant communities in the area. However, about 40 percent of the annual precipitation fall at a time favorable for cool-season species. Because of the soils on this site, the vegetation can respond quickly to a light rain. Strong winds blow across this area from February to June from the west and southwest. These winds can dry the soil profile quickly at a time critical for cool-season plant growth. These winds also carry soil particles that can severely damage the plants on this site.

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 of this site are well drained, moderately deep to deep. Typically, the surface textures are fine sandy loam 5 inches or more over sandy clay loam, clay loam, or very fine sandy loam. Permeability is moderately slow to rapid with a moderate to high water-holding capacity. Due to the coarse-textured surfaces, these soils are subject to blowing when plant cover does not protect the surface.

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): N/A

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

	Minimum	Maximum
Drainage Class:	<u>Well</u>	<u>Well</u>
Permeability Class:	<u>Moderately slow</u>	<u>Rapid</u>
Depth (inches):	<u><10</u>	<u>>72</u>
Electrical Conductivity (mmhos/cm):	<u>0.00</u>	<u>8.00</u>
Sodium Absorption Ratio:	<u>0.00</u>	<u>4.00</u>
Soil Reaction (1:1 Water):	<u>6.6</u>	<u>9.0</u>
Soil Reaction (0.1M CaCl2):	<u>N/A</u>	<u>N/A</u>
Available Water Capacity (inches):	<u>3</u>	<u>9</u>
Calcium Carbonate Equivalent (percent):	<u>N/A</u>	<u>N/A</u>

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
 Perennial grasses characterize this site. There is a scattering of shrubs, half-shrubs and forbs. Woody species occupy a minor part of this plant community. Forbs are also minor components of this site. However, during years of abundant rainfall, forb production can become quite significant, with a large variety of forbs scattered throughout the site. This site has a high potential for soil blowing if the natural vegetative cover is not maintained.

Canopy Cover:

Trees	2 – 3 %
Shrubs and half shrubs	3 – 6 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	15 – 20
Bare ground	60 – 70
Surface gravel	0
Surface cobble and stone	1 – 3
Litter (percent)	8 – 10
Litter (average depth in cm.)	2

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	595	935	1,275
Forb	91	143	195
Tree/Shrub/Vine	56	88	120
Lichen			
Moss			
Microbiotic Crusts			
Total	700	1,100	1,500

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 BOHI2	Blue Grama Hairy Grama	220 – 275	220 – 275
2	BOER4	Black Grama	165 – 220	165 – 220
3	BOBA3 SCSC	Cane Bluestem Little Bluestem	165 – 220	165 – 220
4	BOCU	Sideoats Grama	110 – 165	110 – 165
5	HENE5 HECO26	New Mexico Feathergrass Needleandthread	110 – 165	110 – 165
6	SPCR	Sand Dropseed	55 – 110	55 – 110
7	ACHY	Indian Ricegrass	33 – 55	33 – 55
8	ANHA SONU2	Sand Bluestem Indiangrass	33 – 55	33 – 55
9	LYPH	Wolftail	33 – 55	33 – 55
10	PASM	Western Wheatgrass	33 – 55	33 – 55
11	PLJA	Galleta	33 – 55	33 – 55
12	2GRAM	Other Grasses	33 – 55	33 – 55

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	ERIOG	Wildbuckwheat	22 – 33	22 – 33
14	CRPOP	Leather Croton	22 – 33	22 – 33
15	OXYTR	Locoweed spp.	22 – 33	22 – 33
16	ABAN	Sand Verbena	22 – 33	22 – 33
17	2FORB	Other Forbs	22 – 33	22 – 33

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
18	EPHED	Ephedra spp.	22 – 55	22 – 55
19	KRLA2	Winterfat	22 – 55	22 – 55
20	ATCA2	Fourwing Saltbush	22 – 55	22 – 55
21	RHTR	Skunkbush Sumac	22 – 55	22 – 55
22	YUCCA	Yucca spp.	22 – 55	22 – 55
23	2SD	Other Shrubs	22 – 55	22 – 55

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

Other grasses that could appear on this site include: mesa dropseed, threeawn spp., green sprangletop, metcalfe muhly, red muhly, prairie sandreed, alkali sacaton, bottlebrush squirreltail, mat muhly, ring muhly, plains lovegrass, purple lovegrass and bush muhly.

Other shrubs that could appear on this site include: rabbitbrush, broom snakeweed, pinyon pine, juniper spp., hairy mountainmahogany, apacheplume, Bigelow sagebrush and cacti spp.

Other forbs that could appear on this site include: larkspur, purple nightshade, salacity, lupine, curly dock, Indian paintbrush, scarlet globemallow, Rocky Mountain beeplant, threadleaf groundsel, woolly Indianwheat, tansymustard and Russian thistle.

Plant Growth Curves

Growth Curve ID 4022NM

Growth Curve Name: HCPC

Growth Curve Description: Perennial grassland with minor components of shrubs and forbs.

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 habitat for a resident animal community characterized by pronghorn antelope, kit fox, badger, coyote, bobcat, desert cottontail, Ord's kangaroo rat, white-throated woodrat, Botta's pocket gopher, plains pocket mouse, northern grasshopper mouse, sparrow hawk, mourning dove, meadowlark, plains spadefoot toad, eastern fence lizard, plateau whiptail, shorthorned lizard and prairie rattlesnake. Where dense stands of pinyon pine and/or juniper spp., occur woodland wildlife species, such as mule deer, gray fox rock squirrel, pinyon jay scrubjay and Cassin's kingbird are characteristic. Common raven and prairie falcon hunt over this site.

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:

This site offers fair potential for hiking, backpacking, camping and picnicking due to the lack of water and shade. Hunting for antelope, small game and birds is good. Trapping for fur-bearing animals is also good. The natural beauty of the area is typical of the “wide open spaces” and is enhanced during years of abundant rainfall by a large variety of wildflowers scattered throughout the landscape.

Wood Products:

This site has no significant potential for wood products. Where stands of pinyon or juniper occur, care must be taken when harvesting fence material or fuelwood due to the soils.

Other Products:

Grazing:

This site is suitable for grazing all kind and classes of livestock during all seasons of the year. This site is definitely not suited to continuous yearlong grazing or continuous grazing during the growing season. This site responds rapidly to any rainfall it might receive. It also responds well to a system of grazing, which rotates the season of use. As this site deteriorates, the good cool and warm-season grasses disappear and are replaced by low-vigor sod-like blue grama. As deterioration continues, this sod-like blue grama will decrease and an increase of bare grounds and woody vegetation will occur. If this occurs, the site may support a good even-aged stand of pinyon and/or juniper. This site is extremely erosive when in a deteriorated state.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	2.0 – 2.7
75 – 51	2.6 – 3.9
50 – 26	3.8 – 6.4
25 – 0	6.4+

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
Indiangrass	<i>Sorghastrum nutans</i>	EP	D	D	D	D	D	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
New Mexico Feathergrass	<i>Hesperostipa neomexicana</i>	EP	D	D	D	P	P	P	D	D	D	D	D	D
Western Wheatgrass	<i>Pascopyrum smithii</i>	EP	D	D	D	P	P	P	D	D	D	D	D	D
Indian Ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	D	D	D	P	P	P	P	P	P	D	D	D
Fourwing Saltbush	<i>Atriplex canescens</i>	L/S	P	P	P	P	P	P	P	D	D	D	D	D

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
Western Wheatgrass	<i>Pascopyrum smithii</i>	EP	U	U	D	D	D	D	D	D	D	D	D	U
Indian Ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	P	D	D	D	D	D	D
Fourwing Saltbush	<i>Atriplex canescens</i>	L/S	P	P	P	P	P	P	D	D	D	D	D	D
Oak	<i>Quercus spp.</i>	L/S	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
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Western Wheatgrass	<i>Pascopyrum smithii</i>	EP	U	U	D	D	D	D	D	D	D	D	D	U
Indian Ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	P	D	D	D	D	D	D
Fourwing Saltbush	<i>Atriplex canescens</i>	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Oak	<i>Quercus spp.</i>	L/S	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

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	12/30/02	George Chavez	2/12/03