UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XA002NM

Site Name: Clayey Upland

Precipitation or Climate Zone: 14 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site is on nearly level to undulating upland plains. Elevation ranges from 5,000 to 7,000 feet above sea level. Slopes are usually less than 3 percent but may range to 5 percent. The moderately fine or fine textured soil surface differentiates this site from the surrounding sites.

Land Form:

1. Plain
2.
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	5,000	7,000
Slope (percent)	<3	5
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	Rare	Rare
Duration	Very brief	Brief

Ponding:	**Minimum**	**Maximum**
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".

Precipitation averages 14 to 16 inches. Seventy seven percent of the year's moisture normally falls during the period of May through October. Practically all of it is brought by brief afternoon and evening thunderstorms. In July and August, normally the wettest months of the year, one can expect about one day in five when rainfall exceeds one-tenth inch. Early spring precipitation in May benefits the cool-season plants. Winter precipitation, supplying 24 percent of the year's moisture, normally has no more than two days a month with as much as one-tenth inch of moisture. Much of the winter precipitation falls as snow.

Air temperatures vary from a monthly mean of 20 degrees F in January to 69 degrees F in July. Daily high temperatures average in the 80's and low 90's during the summer. Winter low temperatures fall below the freezing mark much of the time from November through March with minimum temperatures approaching 25 degrees F below zero. Dates of the last killing frost may vary from May 9th through May 17th, and the first killing frost from September 27th to October 8th. The frost-free season ranges from 141 days to 153 days from early May to early October.

Wind velocities for the area average 10 to 12 miles per hour and prevail from the south and southwest. Generally, March is the windiest month. Strong winds during the spring cause rapid drying of the soil surface.

Nearby mountains to the west intercept much of the precipitation from the Pacific storms coming through this area during the winter. About 70 percent of the 14 to 16 inches of annual precipitation falls in the form of rainfall during the frost-free season. About 40 percent of the annual precipitation benefits cool-season plants, 50 percent benefits warm-season plants and 10 percent falls during the season of plant dormancy. Relative humidity is moderately low. The sun shines approximately 75 percent of the time.

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):	132	149
Freeze-free period (days):	153	171
Mean annual precipitation (inches):	14	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.27	.40	10.4	48.2
February	.26	.43	14.1	52.7
March	.56	.78	20.4	59.6
April	.85	1.20	28.7	67.9
May	1.68	2.49	38.3	76.4
June	1.77	2.21	46.3	85.7
July	2.53	3.43	50.9	88.8
August	2.95	3.57	50.6	86.6
September	1.56	2.02	42.9	80.7
October	1.02	1.20	31.4	71.4
November	.44	.59	19.9	57.6
December	.25	.51	12.3	50.5

Climate Stations:

				Period		
Station ID	293706	Location	Grenville, NM	From: 01/01/41	To:	12/31/01
Station ID	294856	Location	Las Vegas FAA Airport, NM	From: 01/01/41	To:	12/31/01
Station ID	295490	Location	Maxwell, NM	From: 01/01/14	To:	12/31/01
Station ID	297280	Location	Raton KRTN Radio, NM	From: 12/01/78	To:	12/31/01
Station ID	298501	Location	Springer, NM	From: 01/01/14	To:	12/31/01
Station ID	299330	Location	Valmora, NM	From: 03/01/17	To:	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 and moderately deep to deep. The surface textures are silty clay loam and clay loam. The subsoil and substratum are clay loams. These soils have moderately slow to very slow permeability. Runoff is slow to moderate. Available water-holding capacity is high. Infiltration is slow.

Where good cover and adequate plant residue are lacking, the soils of this site usually develop an impervious, dispersed surface condition, which decreases their low infiltration rate.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed - calcareous

Surface Texture:

1. Silty clay loam
2. Clay loam
3. Clay

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Clayey
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:	Moderately well	Well
Permeability Class:	Impermeable	Slow
Depth (inches):	20	60
Electrical Conductivity (mmhos/cm):	0.00	8.00
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	6.6	9.0
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	9	12
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 grassland dotted with occasional shrubs. Mid-grasses are dominant with short-grasses which can take advantage of the soils with high water-holding capacities. Shrubs and half-shrubs are sparsely scattered. Few woody plants are indigenous to this site. Forbs are a minor component of the potential plant community.

Canopy Cover:	
Trees	0
Shrubs and half shrubs	3 – 5 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	30 – 35
Bare ground	40 – 45
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	15 – 20
Litter (average depth in cm.)	2

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	332	664	996
Forb	12	24	36
Tree/Shrub/Vine	32	64	96
Lichen			
Moss			
Microbiotic Crusts			
Total	400	800	1,200

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	200 – 240	200 – 240
2	PASM	Western Wheatgrass	160 – 200	160 – 200
3	SPAI	Alkali Sacaton	160 – 200	160 – 200
4	PLJA	Galleta	80 – 120	80 – 120
5	PAOB	Vine-mesquite	40 – 80	40 – 80
6	BOCU	Sideoats Grama	8 – 40	8 – 40
7	BUDA	Buffalograss	8 – 40	8 – 40
8	MURE MUTO2	Creeping Muhly Ring Muhly	8 – 40	8 – 40

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
9	AMBRO	Ragweed spp.	8 – 24	8 – 24
10	2FP	Other Perennial Forbs	8 – 24	8 – 24
11	2FA	Other Annual Forbs	8 – 24	8 – 24

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	ATCA2 LYPA	Fourwing Saltbush Pale Wolfberry	16 – 48	16 – 48
13	KRLA2	Winterfat	8 – 24	8 – 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

Other grasses that could appear include: plains muhly, threeawn spp., and bottlebrush squirreltail.
Other shrubs that could appear include: broom snakeweed, fringed sagewort, cholla cactus and plains pricklypear cactus.
Other forbs that could appear include: gumweed and Wright eriogonum.

Plant Growth Curves

Growth Curve ID **3702NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Mid-grassland with scattered shrubs and a minor forb component.**

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, coyote, black-tailed jackrabbit, black-tailed prairie dog, thirteen-lined ground squirrel, marsh hawk, horned lark, meadowlark, scaled quail, bullsnake, great plains skunk and prairie rattlesnake.

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**
Carnero	C
Colmor	B
La Brier	D
Litle	D
Petri	C
Remunda	C
Rock Outcrop	D
Swastika	C
Torreon	C
Vermejo	D

Recreational Uses:

This site has fair aesthetic appeal because of the open space. This site provides poor camping, hiking and picnicking. Hunting is fair for rabbits and upland game birds. It provides limited use as big game winter range if the site is associated closely with breaks in the physiographic features of the landscape.

Wood Products:

This site has no significant value for wood products.

Other Products:

Grazing:

This site can be used any season of the year, however, to utilize the alkali sacaton, grazing should be intensified before the plants mature. Cows and horses are best suited for this site because of the coarse forage produced by alkali sacaton. Approximately 95 percent of the annual yield are from species that furnish forage for grazing animals. Continuous grazing during the growing season will cause the more desirable forage plants such as western wheatgrass, vine-mesquite, sideoats grama and fourwing saltbush to decrease. The species most likely to invade this site is sleepygrass. Species most likely to increase are blue grama, alkali sacaton, buffalograss, creeping muhly, ring muhly and broom snakeweed. Cholla cactus may also increase. As the ecological condition deteriorates, it is accompanied by a sharp increase in blue grama. Continuous heavy grazing will cause blue grama to form a low, dense turf, which is low in productivity. The plant community may be dominated either by blue grama/galleta and alkali sacaton/galleta. Continuous heavy grazing will result in a loss of vegetative cover causing a large area of denuded soil and the productivity of this site is greatly reduced. Most of the mid-grasses will disappear as deterioration advances. In some areas there may be large patches of sleepygrass and a variety of annual and perennial forbs. A system of deferred grazing, which varies the time of grazing and rest in a pasture during consecutive years, is needed to maintain or improve the plant community. Spring rest from April through June is needed for western wheatgrass to grow and reproduce. This allows alkali sacaton sufficient time to green up before grazing it intensively.

Other Information:	
Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month	
Similarity Index	**Ac/AUM**
100 - 76	2.3 – 3.2
75 – 51	3.1 – 4.4
50 – 26	4.3 – 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	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	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
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D

Plant Preference by Animal Kind:

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
Sideoats Grama	Bouteloua curtipendula	EP	D	D	D	D	P	P	P	P	P	D	D	D
Winterfat	Krascheninnikovia lanata	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
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Some 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: **Colfax, Mora, San Miguel, Union**

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: Colfax, Mora, San Miguel, Union.

Characteristic Soils Are:	
Carnero, Colmor, La Brier, Litle, Petri	Remunda, Rock Outcrop, Swastika, Torreon
Vermejo	
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	04/25/80	Durwood E. Ball	04/29/80

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	08/20/02	George Chavez	12/17/02