

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XA012NM

Site Name: Sandy Plains

Precipitation or Climate Zone: 14 to 16 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site is on gently sloping to rolling plains. Elevation ranges from 5,000 to 7,200 feet above sea level. Slopes are 1 to 7 percent on all aspects. Aspect is not significant to the plant community.

Land Form:

1. Plain

2.

3.

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	5,000	7,200
Slope (percent)	1	7
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”.

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

Monthly moisture (inches) and temperature (°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:

Station ID	Location	From:	Period	To:
293706	Grenville, NM	01/01/41	12/31/01	12/31/01
294856	Las Vegas FAA Airport, NM	01/01/41	12/31/01	12/31/01
295490	Maxwell, NM	01/01/14	12/31/01	12/31/01
297280	Raton KRTN Radio, NM	12/01/78	12/31/01	12/31/01
298501	Springer, NM	01/01/14	12/31/01	12/31/01
299330	Valmora, NM	03/01/17	12/31/01	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from wetland and stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils on this site are well drained and deep. The surface layers are moderately coarse to coarse textured and the subsoil is medium to moderately fine textured. Permeability is moderate to moderately slow. Available water-holding capacity is high. Effective rooting depth is 40 inches or more. The air-water relationship is beneficial to plant growth.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Sands
2. Loamy sand
3. Sandy loam

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>Moderate</u>
Depth (inches):	<u>40</u>	<u>60</u>
Electrical Conductivity (mmhos/cm):	<u>Unknown</u>	<u>Unknown</u>
Sodium Absorption Ratio:	<u>Unknown</u>	<u>Unknown</u>
Soil Reaction (1:1 Water):	<u>Unknown</u>	<u>Unknown</u>
Soil Reaction (0.1M CaCl₂):	<u>Unknown</u>	<u>Unknown</u>
Available Water Capacity (inches):	<u>9</u>	<u>12</u>
Calcium Carbonate Equivalent (percent):	<u>Unknown</u>	<u>Unknown</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

This site is a grassland dominated by a mixture of tall and mid-grasses. Woody species and forbs make up a minor portion of the plant community. A variety of perennial and annual forbs are evenly distributed.

Canopy Cover:

Trees	0
Shrubs and half shrubs	5 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	30
Bare ground	55
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	10
Litter (average depth in cm.)	3

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	680	1,340	2,500
Forb	102	201	300
Tree/Shrub/Vine	68	134	200
Lichen			
Moss			
Microbiotic Crusts			
Total	850	1,675	2,500

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	SCSC	Little Bluestem	335 – 419	335 – 419
2	BOCU	Sideoats Grama	251 – 285	251 – 285
3	ANHA	Sand Bluestem	84 – 117	84 – 117
4	ACHY	Indian Ricegrass	84 – 117	84 – 117
5	BOGR2	Blue Grama	251 – 285	251 – 285
6	HENE5	New Mexico Feathergrass	84 – 117	84 – 117
7	SPCR	Sand Dropseed	84 – 117	84 – 117
8	ERSE	Red Lovegrass	50 – 84	50 – 84
9	ARIST	Threawn spp.	50 – 84	50 – 84
10	MUAR2	Sand Muhly	50 – 84	50 – 84

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	SPHAE	Globemallow spp.	50 – 84	50 – 84
12	SENEC	Ragweed spp.	17 – 50	17 – 50
13	ERIOG ERAN4 AMARA CHENO	Wildbuckwheat Annual Buckwheat Pigweed spp. Goosefoot spp.	50 – 84	50 – 84
14	ARAE	Pricklypoppy	0 – 34	0 – 34
15	LESQU	Bladderpod spp.	17 – 50	17 – 50
16	PSLA3	Lemon Scurfpea	0 – 50	0 – 50
17	MEMU3	Stickleaf	17 – 50	17 – 50
18	GILIA	Gilia spp.	0 – 34	0 – 34
19	SOEL	Silverleaf Nightshade	0 – 34	0 – 34
20	ASTER	Aster spp.	17 – 50	17 – 50
21	PYRRO	Goldenweed spp.	0 – 34	0 – 34
22	HELIA3	Sunflower spp.	34 – 67	34 – 67

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
23	ARFI2	Sand Sagebrush	50 – 84	50 – 84
24	YUCCA	Yucca spp.	50 – 84	50 – 84
25	KRLA2	Winterfat	17 – 50	17 – 50

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 3712NM

Growth Curve Name: HCPC

Growth Curve Description: A mixed tall 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	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, coyote, desert cottontail, spotted ground squirrel, plains pocket gopher, black-tailed prairie dog, burrowing owl, marsh hawk, scaled quail, horned lark, loggerhead shrike, horned lizard and western spadefoot toad.

The Swainson hawk may breed in these habitats.

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
Dalhart	B
Seeleze	B

Recreational Uses:

This site has fair aesthetic appeal and natural beauty. It has a large variety of plants that bloom from spring to fall. This site provides poor camping, picnicking and hiking. Hunting for antelope is good as well as upland game birds.

Wood Products:

This site produces no significant wood products.

Other Products:

This site is suitable for grazing during all seasons of the year and by all classes of livestock. Approximately 95 percent of the total annual yield are from species which provide good feed and good nutrition for livestock. Continuous yearlong grazing or grazing during the period from April through October will result in a plant community of sand dropseed, threeawn, red lovegrass, sand sagebrush and yucca. A system of deferred grazing, which varies the season of grazing and rest in pastures, is needed to maintain a healthy, well-balanced plant community. Periods of rest during the spring (April-June) will allow cool-season grasses such as New Mexico feathergrass and various forbs to grow and to reproduce. Rest during this period is also beneficial to allow grasses such as sand bluestem and Indian ricegrass a period of green up before being grazed. Rest during the summer (July-September) is most beneficial to the warm-season grasses and forbs such as sand bluestem, sideoats grama, Indian ricegrass, little bluestem, blue grama and various forbs.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	2.1 – 4.3
75 – 51	2.6 – 8.6
50 – 26	4.0 – 13.3
25 – 0	13.3+

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
Sand Bluestem	<i>Andropogon hallii</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
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	P	P	P	P	P	P	P	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	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
Sand Bluestem	<i>Andropogon hallii</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
Indian Ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	P	P	P	P	P	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
Sideoats Grama	<i>Bouteloua curtipendula</i>	EP	D	D	D	D	P	P	P	P	P	D	D	D
New Mexico Feathergrass	<i>Hesperostipa neomexicana</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Engelmann Aster	<i>Aster spp.</i>	EP	U	U	D	D	D	D	D	D	U	U	U	U
Pigweed	<i>Amaranthus spp.</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

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
Scarlet Globemallow	Sphaeralcea coccinea	EP	U	U	P	P	P	D	D	D	D	D	D	U
Engelmann Aster	Aster spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Pigweed	Amaranthus 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

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:

Dalhart	Seeleze
---------	---------

Other Soils included are:

--	--

Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	07/27/77	Don Sylvester	07/27/77

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	08/26/02	George Chavez	12/17/02