

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R077BY016NM

Site Name: Very Shallow

Precipitation or Climate Zone: 15 to 16 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on nearly level to moderately sloping narrow ridge tops or on the convex portion of the landscape at elevations from about 4,800 to 6,100 feet above sea level. Slopes are generally 0 to 9 percent but may range to 15 percent.

Land Form:

1. Hillside
2. Ridge
- 3.

Aspect:

1. N/A
- 2.
- 3.

	Minimum	Maximum
Elevation (feet)	4,800	6,100
Slope (percent)	0	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”.

Precipitation averages from about 15 to 16 inches annually, with approximately 75 percent of this yearly moisture falling during the period of May through October. Most summer rainfall is associated with usually brief afternoon and evening thunderstorms, which occasionally produce heavy rain over a small area, and sometimes bring a little hail. Winters are generally dry, with only one or two days a month when as much as one-tenth inch of moisture falls. However, winters average 20 inches of snow, though most snowfalls are light with an occasional storm producing up to six inches. Following these storms, snow may lie on the ground for several days and occasionally moderate to strong winds accompanying these storms result in blizzard conditions and heavy drifting. Although the precipitation patterns favor the production of warm-season plants, sufficient moisture is received in the late winter and the spring to support cool-season plants. Approximately 25 percent of the annual precipitation is received during April and May. May is generally the wettest month followed by July and then August.

Temperatures show the seasonal changes and large annual and diurnal ranges, characteristic of such a climate. Summers are generally mild; high daily temperature readings exceed 90 degrees F about one-third of the time, and readings of 100 degrees F occur about once a year. Rapid cooling after sundown results in minimum temperatures below 60 degrees F on most nights, even in mid-summer. Winter shade temperatures usually rise to the mid-40's, and an average of only 15 days fail to see temperatures rise above the freezing mark. Winter nighttime temperatures fall below the freezing mark most of the time from early November through March; below zero readings occur on an average of only three times a year.

The freeze-free season ranges from 168 days to 171 days between April 28th to October 16th. Both temperatures and annual precipitation favor warm-season plants. About 40 percent of the annual precipitation is received during the season where temperatures will benefit cool-season plants, and only 10 percent falls during the dormant season.

While open to winter invasions of arctic air over the Great Plains, this area is far enough south and west to miss many of these outbreaks. Mountains to the north and west intercept much of the precipitation from the Pacific northwest storms coming through this area during the winter. An average hourly wind velocity for the year is 15 miles per hour. Somewhat higher winds prevail during the spring months, but velocities exceeding 24 miles per hour are experienced only 10 percent of the usual year. Stronger winds blow chiefly from a westerly or southwesterly direction during the spring. Relative humidity is moderately low.

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):	158	191
Freeze-free period (days):	177	220
Mean annual precipitation (inches):	15	16

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

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.28	.38	18.5	50.1
February	.32	.40	21.9	58.7
March	.64	.69	26.3	61.6
April	.89	1.35	34.2	70.9
May	2.08	2.56	43.6	79.3
June	1.82	2.07	52.5	88.4
July	2.60	2.93	57.5	91.7
August	1.68	2.97	56.1	89.5
September	1.55	1.90	49.3	82.8
October	1.10	1.32	38.0	79.2
November	.41	.60	26.8	59.9
December	.38	.50	20.1	51.3

Climate Stations:

		Period					
Station ID	<u>290377</u>	Location	<u>Amistad 3ESE, NM</u>	From:	<u>04/01/25</u>	To:	<u>12/31/01</u>
Station ID	<u>291887</u>	Location	<u>Clayton WSO Airport, NM</u>	From:	<u>2/1/1896</u>	To:	<u>12/31/01</u>
Station ID	<u>293878</u>	Location	<u>Hayden, NM</u>	From:	<u>01/01/14</u>	To:	<u>09/30/65</u>
Station ID	<u>295937</u>	Location	<u>Mosquero, NM</u>	From:	<u>12/01/15</u>	To:	<u>12/31/01</u>
Station ID	<u>297638</u>	Location	<u>Roy, NM</u>	From:	<u>01/01/14</u>	To:	<u>12/31/01</u>

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 significant soils that characterized this site are loams, fine sandy loams and clay loams that average less than 20 inches in depth and more than five inches in depth. The underlying materials are indurated caliche. Permeability of these soils is slow to moderate. The available water-holding capacity is low. Effective rooting depth is from 6 to 20 inches. The plant-soil-moisture-air relationship enables plants to respond to light rainfalls.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Loam

2. Fine sandy loam

3. Clay loam

Surface Texture Modifier:

1. Gravel

2. Stone

3.

Subsurface Texture Group: Loamy

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

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

Subsurface Fragments <=3" (%Volume): 24 to 81

Subsurface Fragments >=3" (%Volume): 3 to 16

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Slow	Moderately slow
Depth (inches):	4	>72
Electrical Conductivity (mmhos/cm):	0.00	4.00
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	7.9	9.0
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 with forbs and cool-season grasses occupying an important component of the plant community. Shrub and half-shrubs occupy a minor component.

Canopy Cover:

Trees	0
Shrubs and half shrubs	3 – 5 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	20 – 25
Bare ground	35 – 40
Surface gravel	10 – 15
Surface cobble and stone	3 – 5
Litter (percent)	15 – 20
Litter (average depth in cm.)	2

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	312	702	1,092
Forb	52	117	182
Tree/Shrub/Vine	32	72	112
Lichen			
Moss			
Microbiotic Crusts			
Total	400	900	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	BOCU	Sideoats Grama	153 – 180	153 – 180
2	SCSC	Little Bluestem	153 – 180	153 – 180
3	BOGR2	Blue Grama	153 – 180	153 – 180
4	HENE5 HECO26	New Mexico Feathergrass Needleandthread	90 – 135	90 – 135
5	BOHI2	Hairy Grama	27 – 45	27 – 45
6	SPCR	Sand Dropseed	27 – 45	27 – 45
7	ARIST LYPH BOSA	Threeawn spp. Wolftail Silver Bluestem	27 – 45	27 – 45
8	2GRAM	Other Grasses	27 – 45	27 - 45

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
9	ERIOG HEAN3 LIPU RACO3 MIRUS	Buckwheat spp. Annual Sunflower Dotted Gayfeather Prairie Coneflower Sensitive Briar	27 – 45	27 – 45
10	2FORB	Other Forbs	27 – 45	27 - 45

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	KRLA2 ARFR4 ARBI3 RHTR	Winterfat Fringed Sagewort Bigelow Sagebrush Skunkbush Sumac	27 – 45	27 – 45
12	2SD	Other Shrubs	27 – 45	27 – 45

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: bottlebrush squirreltail, hairy tridens, rough tridens.

Other shrubs include: broom snakeweed, threadleaf groundsel, and small soapweed.

Other forbs include: scarlet gaura, prairie clover, dalea spp., and globemallow spp.

Plant Growth Curves

Growth Curve ID 4908NM

Growth Curve Name: HCPC

Growth Curve Description: A mixed short/mid-grassland with a major component of forbs and cool-season grasses and a minor component of 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:

No Data.

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
Dean	C
Pastura	D
Plack	D

Recreational Uses:

This site has limited recreation potential, limited mainly by the lack of live water and shade. Hunting for small game and antelope is good. Photography of small animals, birds, antelope and flowering plants is fair to good. The natural beauty of the site is enhanced by the large variety of flowering plants that bloom from spring to fall.

Wood Products:

This site has no significant potential for wood products.

Other Products:**Grazing:**

This site can be grazed any season of the year by all kinds of livestock, generally without regard to age. A portion of the total stocking rate favors sheep and antelope due to the site's potential to produce forbs. The large variety of plants provides good nutrition during most seasons of the year. Supplemental protein is needed only during late winter. Emergency feed is required during heavy snow cover; however, this site is among the first that snow will melt off. This site is among the first to green up in the spring and will usually respond to light amounts of rainfall. Continuous yearlong grazing or grazing continually by cattle during the period from April through October will cause the site to deteriorate and become less productive. Species such as sideoats grama, little bluestem, New Mexico feathergrass, needleandthread and winterfat will decrease and blue grama, threeawn spp., wolftail, tridens, broom snakeweed and forbs will increase. A system of deferred grazing, which varies the season of grazing and rest in each pasture during successive years, is needed to maintain or improve the plant community. Different seasons of rest and grazing benefit different plants. Spring rest (April-June) will allow cool-season forbs and grasses such as New Mexico feathergrass and needleandthread to grow and reproduce. Summer rest will benefit warm-season grasses such as sideoats grama, little bluestem, and blue grama. Fall rest allows plants to complete their growth cycle. Winter rest will benefit the woody species such as winterfat and sagebrush. Grazing is beneficial after the seed sets and aids in trampling in the seed.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	2.6 – 4.4
75 – 51	3.2 – 6.8
50 – 26	4.4 – 12.0
25 – 0	12.0+

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
Silver Bluestem	<i>Bothriochloa saccharoides</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
Little Bluestem	<i>Schizachyrium scoparium</i>	EP	D	D	D	D	P	P	P	D	D	D	D	D
New Mexico Feathergrass	<i>Hesperostipa neomexicana</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Needleandthread	<i>Hesperostipa comata</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
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
Sideoats Grama	<i>Bouteloua curtipendula</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P

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	<i>Bouteloua curtipendula</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Little Bluestem	<i>Schizachyrium scoparium</i>	EP	D	D	D	D	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
Sideoats Grama	<i>Bouteloua curtipendula</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Prairie Coneflower	<i>Ratibida columnifera</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
Sensitive Briar	<i>Mimosa rupertiana</i>	L	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Dotted Gayfeather	<i>Liatris punctata</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
Annual Sunflower	<i>Helianthus annuum</i>	EP	U	U	U	U	U	D	D	D	U	U	U	U

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
Prairie Coneflower	<i>Ratibida columnifera</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
Sensitive Briar	<i>Mimosa rupertiana</i>	L	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Dotted Gayfeather	<i>Liatris punctata</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
Buckwheat	<i>Eriogonum species</i>	EP	U	U	D	D	D	D	D	D	U	U	U	U
Annual Sunflower	<i>Helianthus annuum</i>	EP	U	U	U	U	U	D	D	D	U	U	U	U

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, Harding, 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 Southern High Plains 77 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Union, Harding Colfax.

Characteristic Soils Are:

Plack _____

Other Soils included are:

Dean _____ Pastura _____

Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	05/23/84	Donald H. Fulton	06/13/84

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	06/10/01	George Chavez	12/18/02