

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XB129NM

Site Name: Limy

Precipitation or Climate Zone: 10-16"

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on level to undulation piedmont slopes and plains and on the tops of mesas. Slopes average five percent or less although they may range to 10 percent. Elevations range from 5,500 to 7,300 feet. Aspect varies but is not significant.

Land Form:

1. Fan piedmont
2. plains
3. piedmont slopes

Aspect:

1. not significant

	Minimum	Maximum
Elevation (feet)	5500	7300
Slope (percent)	0	10
Water Table Depth (inches)	--	--
	Minimum	Maximum
Flooding:		
Frequency	--	--
Duration	--	--
	Minimum	Maximum
Ponding:		
Depth (inches)	--	--
Frequency	--	--
Duration	--	--

Runoff Class:

Medium Hydrologic group B-C

CLIMATIC FEATURES

Narrative:

Average annual precipitation varies from about 10 inches to just over 16 inches. Fluctuations ranging from about 5 inches to 25 inches are not uncommon. The overall climate is characterized by cold dry winters in which winter moisture is less than summer. As much as half or more of the annual precipitation can be expected to come during the period of July through September. Thus, fall conditions are often more favorable for good growth of cool-season perennial grasses, shrubs, and forbs than are those of spring.

The average frost-free season is about 120 days and extends from approximately mid-May to early or mid-September. Average annual air temperatures are 50 degrees F or lower, and summer maximums rarely exceed 100 degrees F. Winter minimums typically approach or go below zero. Monthly mean temperatures exceed 70 degrees F for the period of July and August.

Rainfall patterns generally favor warm-season perennial vegetation, while the temperature regime tends to favor cool-season vegetation. This creates a somewhat complex community of plants on a given range site, which is quite susceptible to disturbance and is at or near its productive potential only when both the natural warm-and cool-season dominants are present.

	Minimum	Maximum
Frost-free period (days):	51	171
Freeze-free period (days):	130	252
Mean annual precipitation (inches):	10	16

Monthly moisture (inches) and temperature (⁰F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.40	.91	12.9	47.0
February	.43	.65	16.6	51.2
March	.47	1.10	20.9	57.1
April	.30	.49	26.1	65.3
May	.46	.98	33.4	74.2
June	.51	.57	41.4	84.2
July	2.15	3.45	50.4	85.1
August	2.28	3.03	48.7	82.4
September	1.29	1.68	41.4	77.9
October	.81	1.12	29.4	69.2
November	.38	.71	19.1	57.3
December	.53	.95	13.1	48.9

Climate Stations:					
Station ID	290640	Location	Augustine 2E	From:	<div style="text-align: center;">Period</div> 05/01/26 To 07/31/00
Station ID	296812	Location	Pietown 19NE	From:	<div style="text-align: center;">Period</div> 09/01/88 To 07/31/00
Station ID	297180	Location	Quemado	From:	<div style="text-align: center;">Period</div> 08/01/15 To 07/31/00

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 and moderately deep to deep. The surface textures range from loams to clay loams. Water-holding capacity is moderate to high and permeability is moderate. These soils are typically slightly effervescent on the surface with effervescence increasing with depth. There is a calcareous horizon within 20 inches of the surface that may be weakly cemented. This may affect the rooting depth of the vegetation. These soils are highly susceptible to wind and water erosion.

Characteristic taxonomic units are: Harvey loam, Flaco cobbly loam, loam

Parent Material Kind: Eolian and alluvial

Parent Material Origin: basalt

Surface Texture:

1. Clay loam
2. Sandy clay loam, Sandy loam
3. Very fine sandy loam

Surface Texture Modifier:

1. --
2. --
3. --

Subsurface Texture Group: Clay loam

Surface Fragments $\leq 3''$ (% Volume): --

Surface Fragments $> 3''$ (% Volume): --

Subsurface Fragments $\leq 3''$ (%Volume): 5-19

Subsurface Fragments $\geq 3''$ (%Volume): 1-3

	Minimum	Maximum
Drainage Class:	<u>well</u>	<u>well</u>
Permeability Class:	<u>slow</u>	<u>Moderately rapid</u>
Depth (inches):	<u>20</u>	<u>>72</u>
Electrical Conductivity (mmhos/cm):	<u>0.00</u>	<u>4.00</u>
Sodium Absorption Ratio:	<u>0.00</u>	<u>5.00</u>
Soil Reaction (1:1 Water):	<u>7.4</u>	<u>8.4</u>
Soil Reaction (0.1M CaCl ₂):	<u>--</u>	<u>--</u>
Available Water Capacity (inches):	<u>2</u>	<u>5</u>
Calcium Carbonate Equivalent (percent):	<u>--</u>	<u>--</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:

This is a grassland site characterized by a mixture of warm-and cool- season grasses. Woody species occupy an important, although minor portion of the plant community. Forbs are a minor component of this site. During years of abundant spring and fall moisture a large variety of forbs occur throughout the site. The calcium content of the soils has a direct effect on the kinds as well as the amount of vegetation produced.

At higher elevations (usually above 6,800 feet), Black grama is often not found exceeding five percent even in the potential plant community. In these instances Western and Thick spike wheatgrass may occur in amounts up to 30 percent and Blue grama may reach 20 percent. Pinyon and juniper may increase to 10 percent. Other grasses that could appear on this site include ring muhly, mat muhly, cane bluestem, tridens spp, and spike muhly. Other shrubs include cacti spp, yucca spp, sandsage, and sacahuista.

Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	15-20
Bare ground	45-55
Surface gravel	
Surface cobble and stone	5-20
Litter (percent)	10-15
Litter (average depth in cm.)	2
Surface Gravel (% cover)	

Plant Community Annual Production (by plant type):

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	300	530	760
Forb	28	50	71
Tree/Shrub/Vine	47	83	119
Lichen	--	--	--
Moss	--	--	--
Microbiotic Crusts	--	--	--
Totals	375	662.5	950

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	ELLAL PASM	Thickspike wheatgrass Western wheatgrass	66-133	66-133
2	BOGR2 BOHI2	Blue grama Hairy grama	66-99	66-99
3	HENE5 HECO26	NM Feathergrass Needle-and-Thread	66-133	66-133
4	PLJA	Galleta	33-66	33-66
5	SPAI	Alkali sacaton	20-33	20-33
6	ACHY	Indian ricegrass	20-33	20-33
7	ELEL5	Bottlebrush squirreltail	20-33	20-33
8	SPCR SPCO4 LYPH	Sand dropseed Spike dropseed Wolftail	20-33	20-33
9	BOCU	Sideoats grama	66-99	66-99
10	BOER4	Black grama	33-66	33-66

Plant Type - Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	KRLA2	Winterfat	33-66	33-66
12	ATCA2	Fourwing saltbush	7-33	7-33
13	EPHED	Ephedra spp.	7-20	7-20
14	ARBI	Bigelow sagebrush	7-33	7-33
15	ERNAN5 TECA2 GUSA2	Rabbitbrush Spineless horsebrush Broom snakeweed	7-20	7-20
16	PIED JUNIP	Pinyon Juniper	7-20	7-20
17	Various	Other shrubs	20-33	20-33

Plant Type – Forb

18	2PF	Perennial forbs	7-53	7-53
19	2AF	Annual forbs	7-33	7-33

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 NM 0319

Growth Curve Name: HCPC

Growth Curve Description: WP-2 Limy HCPC

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	10	10	10	20	25	15	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Recreational Uses:

This site offers fair to good potential for hiking, horseback riding, nature observation, and photography. Camping is limited due to the lack of water and shade. Hunting for antelope and small game is good. During years of abundant rainfall, the natural beauty is enhanced by an array of colorful wildflowers.

Wood Products:

Under the potential vegetative community, this site has little potential for wood products. However, in areas where pinyon and juniper have increased there is a limited potential for fencing material and fuelwood.

Other Products:

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year but is poorly suited to continuous yearlong use. Species such as Western wheatgrass, New Mexico feathergrass, Sideoats grama, Winterfat, and Fourwing saltbush will decrease. They will be replaced by blue grama, broom snakeweed, yucca, and cholla. Continued deterioration of the site can cause severe erosion. This site responds best to a system of grazing that rotates the season of use. In some areas, pinyon and juniper have increased on this site and may appear as even-aged, long-lived stands.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	3.3-4.6
75 - 51	4.4-6.8
50 - 26	6.5-11.0
25 - 0	11.0+

Plant Preference by Animal Kind:

	Code	Species Preference	Code
Stems	S	None Selected	N/S
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruit/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

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
Western wheatgrass	<i>Pascopyrum smithii</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Needle and Thread	<i>Hesperostipa comata</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
NM Feathergrass	<i>Hesperostipa neomexicana</i>	Ep	D	D	P	P	P	D	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
Bottlebrush squirreltail	<i>Elymus elymoides</i>	Ep	U	U	D	D	D	U	U	U	D	D	D	U
Bigelow sagebrush	<i>Artemisia bigelovii</i>	Ep	D	D	D	D	D	D	D	D	D	D	D	D
Fourwing saltbush	<i>Atriplex canescens</i>	EP	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	<i>Krascheninnikovia lanata</i>	Ep	D	D	P	P	P	P	P	P	D	D	D	D
Black grama	<i>Bouteloua eriopoda</i>	Ep	P	P	P	D	D	D	D	D	D	D	P	P
Sideoats grama	<i>Bouteloua curtipendula</i>	Ep	D	D	D	D	D	D	D	D	D	D	D	D

Supporting Information

Associated Sites:

<u>Site Name</u>	<u>Site ID</u>	<u>Site Narrative</u>
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Similar Sites:

<u>Site Name</u>	<u>Site ID</u>	<u>Site Narrative</u>
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State Correlation:

This site has been correlated with the following states:

Inventory Data References:

<u>Data Source</u>	<u>Number of Records</u>	<u>Sample Period</u>	<u>State</u>	<u>County</u>
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Type Locality:

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the New Mexico and Arizona Plateaus & Mesas Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: McKinley, Catron, Cibola, Socorro and Sandoval.

Characteristic Soils Are:

Other Soils included are:

Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	05/15/84	Don Sylvester	05/15/84

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Brenda Simpson	07/23/02	George Chavez	12/16/02

