

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XC107NM

Site Name: Clayey

Precipitation or Climate Zone: 12 to 16 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

The topography of this site is level to moderately sloping and may include slightly depressed or swale-type positions which receive runoff from adjacent sites. Slopes range from 0 to 10 percent, but average less than 5 percent. Elevations range from just under 5,000 feet to just over 6,800 feet above sea level.

Land Form:

1. Depression
2. Swale
- 3.

Aspect:

1. N/A
- 2.
- 3.

	Minimum	Maximum
Elevation (feet)	5,000	6,800
Slope (percent)	0	10
Water Table Depth (inches)	N/A	N/A
	Minimum	Maximum
Flooding:		
Frequency	Rare	Frequent
Duration	Very brief	Very brief
	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:

Average annual precipitation varies from about 12 inches to just over 16 inches. Substantial fluctuations from year to year are common, ranging from a low of about 6 inches to a high of over 30 inches. Approximately one-half of the annual precipitation comes in the form of rainfall during the months of July, August, and September, although wintertime precipitation in the form of snow, sleet, or rain is sometimes significant. Spring and late fall months are normally dry.

The average frost-free period ranges from about 165 to 190 days and extends from approximately the third or fourth week in April to mid October. Average annual air temperatures are about 56 degrees F. Summer maximums can exceed 100 degrees F and winter minimums on occasion go below zero. Monthly mean temperatures generally exceed 70 degrees F for the period of June through August.

Growing conditions favor warm-season perennial vegetation, although late winter and late summer precipitation is adequate to foster a significant cool-season component in the potential plant community. Occasional wet springs also create good conditions for annual forb production, but frequent winds from the west and southwest are common during this time of year and tend to deplete soil moisture at a critical time for the growth of these plants.

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>125</u>	<u>187</u>
Freeze-free period (days):	<u>146</u>	<u>211</u>
Mean annual precipitation (inches):	<u>12</u>	<u>16</u>

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

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.37	1.22	16.2	55.6
February	.35	.94	18.6	60.1
March	.26	.95	22.1	66.1
April	.26	.42	27.0	74.2
May	.12	.58	34.0	82.6
June	.53	.98	42.8	92.0
July	2.29	3.32	52.5	92.6
August	2.50	3.22	51.4	89.9
September	1.62	2.85	43.5	85.7
October	1.17	1.81	32.0	76.2
November	.41	1.58	22.0	64.4
December	.61	1.85	15.9	55.9

Climate Stations:

Station ID	Location	Period
299806	Chloride Ranger Stn., NM	From: 05/14/49 To: 12/31/00
291910	Cliff 11SE, NM	From: 01/01/37 To: 12/31/00
294009	Hillsboro, NM	From: 10/01/24 To: 12/31/00
297386	Hood Ranger Stn., NM	From: 04/01/54 To: 12/31/00
298324	Silver City, NM	From: 01/01/61 To: 12/31/00

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:

Typical soils are moderately deep to deep well drained. The surface layer is fine or moderately fine. Sometimes it has a very thin layer that is medium textured and are slowly permeable. Water intake rates are moderate to slow. Soil cracking following dry periods provides opportunity for occasional deep wetting upon finally receiving moisture. Runoff in the absence of good vegetative cover can be high, and water-holding capacity is moderate to high.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Clay loam
2. Loam
3. Gravelly clay loam

Surface Texture Modifier:

1. Gravel
2.
3.

Subsurface Texture Group: Clayey

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

Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): 0 to 57

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

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Impermeable	Slow
Depth (inches):	20	>72
Electrical Conductivity (mmhos/cm):	0.00	16.00
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):	3	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 is a grassland site characterized by short and mid-grasses. Blue grama and sideoats grama are the dominant grasses. Such species as black grama, alkali sacaton, tobosa, and bottlebrush squirreltail are also characteristic although alkali sacaton may not be present in all cases.

Fourwing saltbush, winterfat, and yucca are common woody species, with broom snakeweed coming and going cyclically and as condition deteriorates. Forbs such as perennial buckwheat and globemallow also occur commonly on the site but not often in substantial amounts.

NOTE: Where site occurs in depressed areas or shallow swale positions, additional overflow may cause the site to support as much as 15 percent western wheatgrass, 20 percent tobosa or galleta, and 10 percent vine-mesquite. Under these conditions, blue grama normally will not exceed 20 percent.

Canopy Cover:

Trees	0
Shrubs and half shrubs	4 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs – plant density	20
Bare ground	62
Surface gravel	5
Surface cobble and stone	1
Litter (percent)	12
Litter (average depth in cm.)	2

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	255	500	744
Forb	24	47	70
Tree/Shrub/Vine	24	47	70
Lichen			
Moss			
Microbiotic Crusts			
Total	300	588	875

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	176 – 235	176 – 235
2	BOCU	Sideoats Grama	59 – 88	59 – 88
3	SPAI PLMU3 PLJA	Alkali Sacaton Tobosa Galleta	88 – 118	88 – 118
4	BOER4	Black Grama	6 – 29	6 – 29
5	PAOB	Vine-mesquite	6 – 29	6 – 29
6	ELEL5	Bottlebrush Squirreltail	18 – 29	18 – 29
7	DICA8 ERIN SEVU2 BOBA3	Arizona Cottontop Plains Lovegrass Plains Bristlegrass Cane Bluestem	6 – 29	6 – 29
8	DAPU7 MURI MURE HIBE	Fluffgrass Mat Muhly Creeping Muhly Curly Mesquite	6 – 18	6 – 18
9	ARIST SCBR2	Threeawns spp. Burrograss	18 – 47	18 – 47
10	2GRAM	Other Grasses	6 – 18	6 - 18

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	ERIOG SPHAE CROTO	wildbuckwheat Globemallow spp. Croton spp.	6 – 18	6 – 18
12	2FA	Other Annual Forbs	6 – 18	6 – 18
13	2FP	Other Perennial forbs	6 – 29	6 - 29

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	ATCA2	Fourwing Saltbush	6 – 18	6 – 18
15	EPTR YUCCA LYPA	Longleaf Ephedra Yucca spp. Pale Wolfberry	6 – 18	6 – 18
16	KRLA	Winterfat	6 – 18	6 – 18
17	GUSA2	Broom Snakeweed	6 – 18	6- 18

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 0607NM

Growth Curve Name: HCPC

Growth Curve Description: Mixed short/mid-grassland with shrub and forb component.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	15	25	25	8	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This ecological site provides habitat which can support a resident animal community characterized by desert cottontail, Botta's pocket gopher, bannertail kangaroo rat, southern plains woodrat, coyote, burrowing owl, meadowlark, scaled quail, lesser earless lizard, leopard lizard, and short-horned lizard.

Where shrubs are present, mourning dove nest.

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
Denver	C
Manzano	B
Navajo	D
Ruidoso	C
White House	C

Recreational Uses:

This site offers limited recreation potential for hiking, horseback riding, picnicking, camping, nature observation, photography, and hunting for scaled quail and mourning dove. When favorable spring moisture conditions occur, a colorful display of wildflowers may be seen.

Wood Products:

This site has no significant value for wood products.

Other Products:

Grazing:

This site, at its potential, is suitable for grazing in all seasons of the year, since most of its production is in the form of perennial grasses which persist as dry-standing herbage well after their growing season has ended. It is adapted for cattle, sheep, horses, and to some extent goats, generally without regard to class of livestock. Retrogression in the plant community is characterized by increases in such plants as tobosa, threeawns, burrograss, and mesquite. Broom snakeweed and an abundance of annuals may also be symptomatic of site deterioration, especially if there are numerous areas of bare ground and an obvious absence or near absence of the better climax species such as the gramas. Following severe deterioration, the site does not recover rapidly through improved grazing management alone.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	4.0 – 5.0
75 – 51	4.8 – 7.2
50 – 26	7.0 – 13.0
25 – 0	13.0+

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	
Blue Grama	<i>Bouteloua gracilis</i>	EP	D	D	D	D	P	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	P
Black Grama	<i>Bouteloua eriopoda</i>	EP	P	P	P	D	D	D	D	D	D	D	D	P	P
Vine-mesquite	<i>Panicum obtusum</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D	D
Cane Bluestem	<i>Bothriochloa barbinodis</i>	EP	U	U	U	U	U	U	U	P	P	D	U	U	U
Bottlebrush Squirreltail	<i>Elymus Elymoides</i>	EP	U	U	D	D	D	U	U	U	D	D	D	D	U
Fourwing Saltbush	<i>Atriplex canescens</i>	EP	P	P	P	P	P	D	D	D	D	D	D	D	P
Winterfat	<i>Krascheninnikovia lanata</i>	EP	D	D	P	P	P	P	P	P	P	P	D	D	D

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>	EP	D	D	D	D	D	D	D	D	D	D	D	D	D
Perennial Buckwheat	<i>Eriogonum spp.</i>	EP	U	U	D	D	D	D	D	D	D	U	U	U	U
Globemallow	<i>Sphaeralcea spp.</i>	EP	U	U	P	P	P	D	D	D	D	D	D	D	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: Grant, Catron, Hidalgo, Sierra, Socorro

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 New Mexico and Arizona Plateaus and Mesas 36 Major Land Resource Area of New Mexico.

This site has been mapped and correlated with soils in the following soil surveys: Socorro, Sierra, Grant, Catron.

Characteristic Soils Are:

Denver	Ruidoso
--------	---------

Other Soils included are:

Carnero	Lonti
---------	-------

Manzano	Navajo
---------	--------

White House	
-------------	--

Site Description Approval:

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

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	07/05/02	George Chavez	12/17/02