

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XC101NM

Site Name: Shallow

Precipitation or Climate Zone: 12 to 16 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on nearly level to moderately sloping uplands. Slopes average less than 15 percent. Elevation range from about 5,000 to 6,800 feet above sea level.

Land Form:

1. Plain

2.

3.

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	5,000	6,800
Slope (percent)	0	15
Water Table Depth (inches)	N/A	N/A

Flooding:	Minimum	Maximum
Frequency	N/A	N/A
Duration	N/A	N/A

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:

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:

These shallow soils have calcareous gravelly and/or cobbly loams over cemented caliche hardpan within 20 inches. This layer is inhibiting to both roots and moisture penetration and creates a situation favorable to the more shallow rooted plants.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Gravelly loam
2. Very gravelly loam
3. Cobbly loam
4. Loam
5. Gravelly clay loam
6. Very channery fine sandy loam
7. Very flaggy loam

Surface Texture Modifier:

1. Gravel
2. Cobble
3. Channery
4. Flaggy

Subsurface Texture Group: Clayey

Surface Fragments ≤ 3 " (% Cover): 15 to 60

Surface Fragments > 3 " (% Cover): 15 to 60

Subsurface Fragments ≤ 3 " (%Volume): 15 to 30

Subsurface Fragments ≥ 3 " (%Volume): 15 to 30

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Impermeable	Moderately slow
Depth (inches):	4	20
Electrical Conductivity (mmhos/cm):	0.00	8.00
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	6.6	8.4
Soil Reaction (0.1M CaCl₂):	N/A	N/A
Available Water Capacity (inches):	1	2
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 typified by a grassland ecosystem dominated by short and mid-grasses, forbs and low growing half-shrubs such as winterfat. Soap-tree yucca lends importance only as an “aspect” dominant, and broom snakeweed comes and goes cyclically and as range condition deteriorates.

Canopy Cover:

Trees	0
Shrubs and half shrubs	10 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	23
Bare ground	25
Surface gravel	30
Surface cobble and stone	2
Litter (percent)	18
Litter (average depth in cm.)	2

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	356	629	900
Forb	38	67	96
Tree/Shrub/Vine	86	151	216
Lichen			
Moss			
Microbiotic Crusts			
Total	475	838	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	BOER4	Black Grama	210 – 293	210 – 293
2	BOCU	Sideoats Grama	84 – 126	84 – 126
3	HENE5 ELEL5	New Mexico Feathergrass Bottlebrush Squirreltail	42 – 84	42 – 84
4	BOGR2 BOHI2	Blue Grama Hairy Grama	42 – 84	42 – 84
5	PIMU3	Tobosa	0 – 25	0 – 25
6	SPCR	Sand Dropseed	42 – 84	42 – 84
7	ARIST	Threeawn spp.	25 – 67	25 – 67
8	MUTOE DAPU7 MUAR2 2GA	Ring Muhly Fluffgrass Sand Muhly Annual Grasses	8 – 42	8 – 42
9	PAHA SEVU2	Hall's Panicum Plains Bristlegrass	8 – 25	8 - 25

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	ERIOG CROTO PSCO2 OXSES SEAR8 ERBL2	Wild buckwheat Croton spp. Paperflower Locoweed spp. Desert Senna Haplopappus spp.	8 – 42	8 – 42
11	2FA	Annual Forbs	8 – 25	8 – 25
12	2FP	Perennial Forbs	8 – 42	8 - 42

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	KRLA2	Winterfat	84 – 126	84 – 126
14	YUCCA	Yucca spp.	0 – 25	0 – 25
15	GUSA2	Broom Snakeweed	8 – 25	8 – 25
16	EPVI	Mormon-tea	0 – 8	0 – 8

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 0601NM

Growth Curve Name: HCPC

Growth Curve Description: Mixed short/mid-grassland w/ forb and low-growing half-shrub components.

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 site provides habitat which can support a resident animal community characterized by pronghorn antelope, black-tailed prairie dog, spotted ground squirrel, banner-tailed kangaroo rat, tawny-bellied cotton rat, silky pocket mouse, kit fox, badger, striped skunk, burrowing owl, mockingbird, meadowlark, scaled quail, lesser earless lizard, little striped whiptail, prairie spadefoot toad, 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
Deama	?
Mion	D
Pastura	D
Penasco	?
Persajo	?
Plack	D
Pinon	D
Winona	D

Recreational Uses:

This site offers potential for horseback riding, nature observation, and hunting for pronghorn antelope and scaled quail. 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 is suitable for grazing in all season of the year. Although most of the herbage production comes during July, August, and September, green forage in the form of forbs and a few early-season grasses can be produced in significant amounts during the spring months, whenever moisture is adequate. Cool-season grasses, however, are usually the first to disappear in the event of continuous yearlong grazing.

The site is adapted for cattle, sheep, and horses, generally without regard to class of livestock, although it has a tendency to become a winterfat range under strictly horse grazing and more of a grass and forb range under cattle grazing. Serious retrogression as a result of inadequately managed cattle grazing will be characterized by an increase in such plants as ring muhly, fluffgrass, broom snakeweed, and annuals, and in may cases by invading woody plants such as mesquite. Total production decreases substantially, bare ground increases, and intensive-grazing management is needed in order to effect a recovery.

Other Information:**Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month**

Similarity Index	Ac/AUM
100 - 76	3.0 – 4.2
75 – 51	4.0 – 6.5
50 – 26	6.0 – 11.0
25 – 0	11.0+

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
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	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
Blue Grama	<i>Bouteloua gracilis</i>	EP	D	D	D	D	P	P	P	P	P	D	D	D
Winterfat	<i>Krascheninnikovia lanata</i>	EP	D	D	P	P	P	P	P	P	D	D	D	D
Plains Bristlegrass	<i>Setaria vulpiseta</i>	EP	D	D	D	D	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
Wild Buckwheat	<i>Eriogonum spp.</i>	EP	U	U	D	D	D	D	D	D	U	U	U	U
Croton	<i>Croton spp.</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Other 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: 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, Hidango.

Characteristic Soils Are:

Pastura	Plack
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Other Soils included are:

Deama	Mion
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Penasco	Persajo
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Pinon	Winona
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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	12/16/02