

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

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R036XA013NM

**Site Name:** Shallow Gravelly

**Precipitation or Climate Zone:** 9 to 14 inches

**Phase:** \_\_\_\_\_

## **PHYSIOGRAPHIC FEATURES**

### **Narrative:**

This site is commonly located adjacent to canyon breaks and other large areas of rock outcrop and exposed bedrock. Slopes range from 1 to 10 percent. Elevation ranges from 6,500 to 7,800 feet above sea level.

### **Land Form:**

1. Break
2. Scarp slope
- 3.

### **Aspect:**

1. N/A
- 2.
- 3.

	<b>Minimum</b>	<b>Maximum</b>
<b>Elevation (feet)</b>	6,500	7,800
<b>Slope (percent)</b>	1	10
<b>Water Table Depth (inches)</b>	N/A	N/A
	<b>Minimum</b>	<b>Maximum</b>
<b>Flooding:</b>		
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A
	<b>Minimum</b>	<b>Maximum</b>
<b>Ponding:</b>		
<b>Depth (inches)</b>	N/A	N/A
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A

### **Runoff Class:**

Negligible to medium.

## CLIMATIC FEATURES

### **Narrative:**

Mean annual precipitation varies from 9 to 14 inches. Deviations of 4 inches or more are quite common. Approximately 60 percent of the precipitation is received during the native plant growth period, April through September. During July, August and September 4 to 6 inches of precipitation influence the presence and production of warm-season plants. Fall and spring moisture is conducive to the growth of cool-season herbaceous plants. Maximum shrub growth also occurs during this time. Summer precipitation is characterized by brief, localized thunderstorms. Winter moisture usually occurs as snow or light rain.

Mean annual temperature varies from 64 degrees F in July to 21 degrees F in January. The maximum is near 100 degrees F. The minimum is near 40 degrees F. The average last killing frost in the spring is around mid-May. The first killing frost in the fall is late September or early October. The frost-free period is approximately 120 to 140 days, but freezing temperatures have been recorded for every month except July and August. Temperatures are generally conducive for herbaceous plant growth from April through September.

Wind velocities are relatively light most of the year with stronger winds occurring in spring and early summer. These stronger winds, which may exceed 25 miles per hour, increase transpiration rates of plants and rapidly dry the soil surface. Also, small soil particles are often displaced by the stronger winds, which can result in structural damage to native plants, particularly young seedlings.

Climate data was obtained from the WCCR web site. Using 50% probabilities for freeze-free and frost-free seasons at 28.5 degrees F and 32.5 degrees F respectively.

	<b>Minimum</b>	<b>Maximum</b>
<b>Frost-free period (days):</b>	104	119
<b>Freeze-free period (days):</b>	134	145
<b>Mean annual precipitation (inches):</b>	9	14

### **Monthly moisture (inches) and temperature (<sup>0</sup>F) distribution:**

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.52	1.79	7.6	45.6
February	.43	1.56	10.7	50.4
March	.67	1.92	16.8	56.8
April	.52	1.26	22.7	66.0
May	.62	1.26	28.8	75.5
June	.49	1.21	35.1	85.8
July	1.54	3.41	42.1	88.9
August	1.86	3.72	41.8	85.8
September	1.08	1.86	34.6	78.8
October	1.01	1.86	25.3	68.8
November	.71	1.60	16.2	56.0
December	.56	1.49	9.3	47.0

**Climate Stations:**

Station ID	<u>292241</u>	Location	<u>Cuba, NM</u>	From:	<u>01/01/14</u>	To:	<u>12/31/01</u>
					Period		
Station ID	<u>293422</u>	Location	<u>Gallup FAA AP, NM</u>	From:	<u>01/01/21</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 soils are very shallow to shallow over bedrock, although some deeper pockets may occur. Surface textures may be gravelly and range from sandy loam to clay loam. Permeability is moderate, runoff is medium, and available water-holding capacity is medium.

**Parent Material Kind:** Alluvium

**Parent Material Origin:** Mixed

**Surface Texture:**

1. Gravelly sandy loam
2. Gravelly clay loam
1.

**Surface Texture Modifier:**

1. Gravel
2.
3.

**Subsurface Texture Group:** Loamy

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

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

**Subsurface Fragments <=3" (%Volume):** 15 to 35

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

	<b>Minimum</b>	<b>Maximum</b>
<b>Drainage Class:</b>	<u>Well</u>	<u>Well</u>
<b>Permeability Class:</b>	<u>Moderate</u>	<u>Moderate</u>
<b>Depth (inches):</b>	<u>&lt;10</u>	<u>20</u>
<b>Electrical Conductivity (mmhos/cm):</b>	<u>Unknown</u>	<u>Unknown</u>
<b>Sodium Absorption Ratio:</b>	<u>Unknown</u>	<u>Unknown</u>
<b>Soil Reaction (1:1 Water):</b>	<u>Unknown</u>	<u>Unknown</u>
<b>Soil Reaction (0.1M CaCl2):</b>	<u>Unknown</u>	<u>Unknown</u>
<b>Available Water Capacity (inches):</b>	<u>6</u>	<u>9</u>
<b>Calcium Carbonate Equivalent (percent):</b>	<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 is a grassland site with scattered shrubs and forbs. Occasional junipers are common.

\*Black grama is restricted to the HV-2 subresource area.

Canopy Cover:

Trees, shrubs and half-shrubs	8 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	25
Bare ground	40
Surface gravel	20
Surface cobble and stone	5
Litter (percent)	10
Litter (average depth in cm.)	1

**Plant Community Annual Production (by plant type):** \_\_\_\_\_

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	210	350	490
Forb	39	65	91
Tree/Shrub/Vine	39	65	91
Lichen			
Moss			
Microbiotic Crusts			
<b>Total</b>	300	500	700

**Plant Community Composition and Group Annual Production:** Plant species are grouped by annual production **not** by functional groups.

**Plant Type - Grass/Grasslike**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	HECO26 HENE5	Needleandthread New Mexico Feathergrass	100 – 125	100 – 125
2	BOCU	Sideoats Grama	25 – 75	25 – 75
3	PLJA	Galleta	15 – 35	15 – 35
4	ACHY	Indian Ricegrass	15 – 35	15 – 35
5	BOER4	Black Grama*	0 – 25	0 – 25
6	ELEL5	Bottlebrush Squirreltail	15 – 35	15 – 35
7	PASM	Western Wheatgrass	15 – 35	15 – 35
8	BOGR2	Blue Grama	15 – 25	15 – 25
9	2GRAM	Other Grasses	15 – 35	15 – 35

**Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	ERIOG	Wildbuckwheat	5 – 25	5 – 25
11	OXYTR CACO17 PHLOX 2FORBS	Locoweed spp. Indian Paintbrush Phlox spp. Other Forbs	50 – 60	50 – 60

**Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	ARTR2	Mountain Big Sagebrush	20 – 40	20 – 40
13	ATCA2	Fourwing Saltbush	15 – 35	15 – 35
14	KRLA2	Winterfat	5 – 25	5 – 25
15	TECA2 ERNAN5 GUSA2	Spineless Horsebrush Rubber Rabbitbrush Broom Snakeweed	5 – 15	5 – 15
16	2SD	Other Shrubs	0 – 15	0 – 15

**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 species that could appear include: sand dropseed, muhly spp., wolftail, aster, penstemon, cactus, yucca and oneseed juniper.

**Plant Growth Curves**

Growth Curve ID 0013NM

Growth Curve Name: HCPC

Growth Curve Description: Grassland with scattered shrubs and forbs.

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, coyote, Nuttall's cottontail, white-tailed jackrabbit, deer mouse and prairie lark. Red-tailed hawks and prairie falcons hunt these sites.

### **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
Petaca	?
Prieta	?

### **Recreational Uses:**

This site is suited to nature observation, camping, picnicking and hunting. Its proximity to mountainous and canyon settings enhance its natural beauty.

### **Wood Products:**

This site produces no significant wood products in its potential plant community.

**Other Products:****Grazing:**

Approximately 85 percent of the vegetative production on this site are suitable for grazing or browsing by domestic livestock and wildlife. Grazing distribution generally is not a problem if adequate waterings are provided. Continuous grazing, which allows repetitive grazing of the desirable species, eventually leads to a decrease in these species from the plant community. Such deterioration is indicated by a decrease in needlegrasses, sideoats grama, Indian ricegrass, bottlebrush squirreltail, western wheatgrass, fourwing saltbush and winterfat. Species that increase includes galleta, blue grama, dropseeds, threeawn spp., ring muhly and broom snakeweed. A planned grazing system with periodic deferment is best to maintain the desirable balance between plant species and to maintain high productivity.

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

Similarity Index	Ac/AUM
100 - 76	4.3 – 5.7
75 – 51	5.5 – 8.7
50 – 26	8.5 – 17.0
25 – 0	17.0+

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
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Black Grama	Bouteloua eriopoda	EP	P	P	P	P	D	D	D	D	D	P	P	P
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Some 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

**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
Sideoats Grama	Bouteloua curtipendula	EP	D	D	D	D	D	D	D	D	D	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D
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: Rio Arriba, Taos

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: McKinley & Sandoval

Characteristic Soils Are:

Petaca | Prieta

Other Soils included are:

\_\_\_\_\_

Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester		Don Sylvester	

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	08/14/02	George Chavez	09/11/02