

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

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R036XB113NM

**Site Name:** Sandy

**Precipitation or Climate Zone:** 10 to 16 inches

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

## PHYSIOGRAPHIC FEATURES

### **Narrative:**

This site usually occurs on level to gently sloping or undulating topography of upland plains. Slopes average less than 10 percent. Elevations range from about 6,000 feet to just over 7,200 feet above sea level.

### **Land Form:**

1. Plain

2.

3.

### **Aspect:**

1. N/A

2.

3.

	<b>Minimum</b>	<b>Maximum</b>
<b>Elevation (feet)</b>	6,000	7,200
<b>Slope (percent)</b>	0	>10
<b>Water Table Depth (inches)</b>	N/A	N/A
	<b>Minimum</b>	<b>Maximum</b>
<b>Flooding:</b>		
<b>Frequency</b>	None	Rare
<b>Duration</b>	None	Very brief
	<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:**

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 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 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 any given ecological 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.

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.

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

### **Monthly moisture (inches) and temperature (°F) 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	.39	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:**

		Period					
Station ID	<u>290640</u>	Location	<u>Augustine 2E, NM</u>	From:	<u>05/01/26</u>	To:	<u>07/31/00</u>
Station ID	<u>296812</u>	Location	<u>Pietown 19NE, NM</u>	From:	<u>09/01/88</u>	To:	<u>07/31/00</u>
Station ID	<u>297180</u>	Location	<u>Quemado, NM</u>	From:	<u>08/01/15</u>	To:	<u>07/31/00</u>

**INFLUENCING WATER FEATURES****Narrative:**

This site is not influenced by water from a wetland or stream.

**Wetland description:**

<b>System</b>	<b>Subsystem</b>	<b>Class</b>
N/A		

**If Riverine Wetland System enter Rosgen Stream Type:**

N/A

**REPRESENTATIVE SOIL FEATURES****Narrative:**

The soils of this site are moderately deep to deep, well drained, and may or may not be calcareous throughout. Typically, the surface layer is a sandy loam, fine sandy loam, or loamy fine sand at least 5 or 6 inches thick over sandy loam to clay loam subsoils. Permeability is moderately slow to moderately rapid, and the available water-holding capacity is moderate to high.

The soils of this site are subject to blowing.

**Parent Material Kind:** Alluvium

**Parent Material Origin:** Mixed

**Surface Texture:**

1. Sandy loam
2. Fine sandy loam
3. Loamy fine sand
4. Gravelly loamy sand
5. Loamy sand
6. Gravelly loamy fine sand

**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>Excessively</u>
<b>Permeability Class:</b>	<u>Slow</u>	<u>Moderately rapid</u>
<b>Depth (inches):</b>	<u>20</u>	<u>&gt;72</u>
<b>Electrical Conductivity (mmhos/cm):</b>	<u>0.00</u>	<u>8.00</u>
<b>Sodium Absorption Ratio:</b>	<u>0.00</u>	<u>5.00</u>
<b>Soil Reaction (1:1 Water):</b>	<u>6.1</u>	<u>9.6</u>
<b>Soil Reaction (0.1M CaCl2):</b>	<u>N/A</u>	<u>N/A</u>
<b>Available Water Capacity (inches):</b>	<u>6</u>	<u>9</u>
<b>Calcium Carbonate Equivalent (percent):</b>	<u>N/A</u>	<u>N/A</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 site is characterized by both warm and cool-season grasses, scattered shrubs, half-shrubs, and forbs. Blue grama and western wheatgrass are co-dominants, with Indian ricegrass and dropseeds closely associated. Principal shrubs and half-shrubs include fourwing saltbush, winterfat, and sand sagebrush. Rocky Mountain beeplant is often the most noticeable forb. Broom snakeweed is most common in certain wet years and when the plant community deteriorates from its potential.

**Canopy Cover:**

Trees	0
Shrubs and half shrubs	5 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	18
Bare ground	69
Surface gravel	1
Surface cobble and stone	0
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	260	470	680
Forb	26	47	68
Tree/Shrub/Vine	42	76	111
Lichen			
Moss			
Microbiotic Crusts			
<b>Total</b>	325	588	850

**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	PASM	Western Wheatgrass	88 – 118	88 – 118
2	BOGR2	Blue Grama	147 – 176	147 – 176
3	ACHY	Indian Ricegrass	29 – 59	29 – 59
4	HECO26 ELEL5 HENE2	Needleandthread Bottlebrush Squirreltail New Mexico Feathergrass	29 – 59	29 – 59
5	SPCR SPCO4	Sand Dropseed Spike Dropseed	59 – 88	59 – 88
6	PLJA	Galleta	6 – 29	6 – 29
7	MUTO2 MUAR2	Ring Muhly Sandhill Muhly	18 – 29	18 – 29
8	MOSQ ARIST	False Buffalograss Threawn spp.	6 – 29	6 – 29
9	BOER4	Black Grama	6 – 29	6 – 29
10	MUWR	Spike Muhly	6 – 18	6 – 18

**Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	2FP	Other Perennial Forbs	18 – 47	18 – 47
12	2FA	Other Annual Forbs	6 – 29	6 - 29

**Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	ATCA2 KRLA2	Fourwing Saltbush Winterfat	29 – 59	29 – 59
14	ARBI3	Bigelow Sagebrush	6 – 29	6 – 29
15	GUSA2 ERNAN5 ARFI2 TECA2	Broom Snakeweed Rubber Rabbitbrush Sand Sagebrush Spineless Horsebrush	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 0304NM

Growth Curve Name: HCPC

Growth Curve Description: Mixed warm/cool-season grassland with scattered shrubs and half-shrubs and forbs.

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 supports a resident animal community that is characterized by pronghorn antelope, kit fox, badger, desert cottontail, spotted ground squirrel, Ord's kangaroo rat, white-throated woodrat, Botta's pocket gopher, plains pocket mouse, Northern grasshopper mouse, ferruginous hawk, mourning dove, meadowlark, plains spadefoot toad, Eastern fence lizard, plateau whiptail, short-horned lizard, and prairie rattlesnake.

Common raven and prairie falcon hunt over the site.

### **Hydrology Functions:**

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

#### **Hydrologic Interpretations**

<b>Soil Series</b>	<b>Hydrologic Group</b>
Bamac	A
Celacy	C
Fruitland	B
Goesling	B
Guy	B
Hubbell	B
Loarc	B
Netoma	B
Otero	B
Palma	B
Penistaja	B
Royosa	A
Telescope	B
Tintero	B
Waumac	B
Zia	B

**Recreational Uses:**

This site offers fair potential for hiking, horseback riding, nature observation, photography, camping, and picnicking. It offers good to excellent potential for hunting pronghorn antelope.

In years of favorable moisture, colorful wildflowers dot the landscape.

**Wood Products:**

This site has no significant value for wood products.

**Other Products:**

Grazing:

This site is suitable for grazing by most kinds and classes of livestock in all seasons of the year, but is poorly suited for continuous yearlong grazing if potential natural vegetation is to be maintained. Under such use, cool-season grasses, such as western wheatgrass, Indian ricegrass, and needleandthread may decline or even disappear. If use is heavy and prolonged, many of the more palatable warm-season species will also decline. Low-vigor, sod-like blue grama and possibly some galleta may characterize the site in a typically deteriorated condition. Further deterioration is characterized by increasing amounts of bare ground, increases in ring muhly, sandhill muhly, threeawns and rabbitbrush, and by certain annual forbs. Production in these instances may be cut to one-third or less of the potential, and soil blowing may become severe. The site, in certain instances, is subject to invasion by woody species such as pinyon pine and juniper.

**Other Information:**

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

<b>Similarity Index</b>	<b>Ac/AUM</b>
100 - 76	3.6 – 4.7
75 – 51	4.5 – 7.0
50 – 26	6.8 – 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
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
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
Winterfat	Krascheninnikovia lanata	EP	D	D	P	P	P	P	P	P	D	D	D	D
Fourwing Saltbush	Atriplex canescens	EP	P	P	P	P	P	D	D	D	D	D	D	P
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U

**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
Winterfat	Krascheninnikovia lanata	EP	P	P	P	P	P	P	P	P	P	P	P	P
Bigelow Sagebrush	Artemisia Bigelovii	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
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	D	D	D	D	D	D	P
Fourwing Saltbush	Atriplex canescens	EP	P	P	P	P	P	D	D	D	D	D	D	P
Most Perennial 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
Winterfat	Krascheninnikovia lanata	EP	D	D	D	D	D	D	D	D	D	D	D	D
Bigelow Sagebrush	Artemisia bigelovii	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
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	U	U	U	U	U	U	U
Indian Ricegrass	Achnatherum hymenoides	EP	U	U	P	P	P	U	U	U	D	D	D	U
Fourwing Saltbush	Atriplex canescens	EP	D	D	D	D	D	D	D	D	D	D	D	D
Most Perennial 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: Catron, 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: McKinley, Sandoval, Cibola, Catron, Socorro

**Characteristic Soils Are:**

Telescope	
-----------	--

**Other Soils included are:**

Bamac, Celacy, Fruitland, Goesling, Guy	Hubbell, Loarc, Netoma, Otero, Palma
---	--------------------------------------

Penistaja, Tintero, Waumac, Zia	
---------------------------------	--

**Site Description Approval:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	02/15/80	Durwood E. Ball	03/27/80

**Site Description Revision:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	07/08/02	George Chavez	12/16/02