

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

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R039XC052NM

**Site Name:** Mountain Valley

**Precipitation or Climate Zone:** 16 to 30 inches

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

## **PHYSIOGRAPHIC FEATURES**

### **Narrative:**

This site occurs as broad drainageways, narrower valleys and mesa tops and parks that occur in a swale type position. This site receives extra water from stream overflow or runoff from adjacent sites. Slope aspect varies but is not significant. Slopes vary from flat to gently sloping, rarely exceeding 5 percent. Elevation ranges from 6,500 to 12,000 feet above sea level.

### **Land Form:**

1. Mountain valley

2.

3.

### **Aspect:**

1. N/A

2.

3.

	<b>Minimum</b>	<b>Maximum</b>
<b>Elevation (feet)</b>	6,500	12,000
<b>Slope (percent)</b>	0	5
<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:**

The average annual precipitation ranges from 16 to 30 inches. Precipitation increases with elevation. Variations of five inches, more or less, are common. Nearly two-thirds of the precipitation falls in the form of high intensity-short duration thunderstorms, from March to October. Winter precipitation is mainly in the form of snowfalls of six to ten inches.

Mild summers and moderately cold winters characterize temperatures. Large seasonal and diurnal temperature changes occur. The average annual temperature is about 45 degrees F with extremes of 26 degrees F below zero in the winter to 100 degrees F in the summer.

The average frost-free season is 80 to 145 days. The last killing frost is in early May to early June and the first killing frost is in early September to early October.

Temperature and precipitation favor cool-season, perennial plant growth. However, the temperatures are warm enough in the lower elevations to allow the warm-season species to occupy an important part of this plant community. Due to the swale or bottomland position of this site and the overflow it receives, this site has a higher plant density and production than adjoining sites.

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>	106	147
<b>Freeze-free period (days):</b>	134	175
<b>Mean annual precipitation (inches):</b>	16	30

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

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.66	1.68	16.3	49.2
February	0.58	1.90	19.4	53.3
March	0.71	1.55	23.1	60.2
April	0.69	0.99	28.1	67.6
May	0.66	1.27	34.6	75.8
June	0.51	2.50	42.2	85.3
July	1.87	6.13	46.8	87.0
August	1.96	5.89	46.0	83.3
September	1.73	2.91	40.5	77.4
October	1.02	2.64	31.2	68.0
November	0.55	1.66	24.0	57.1
December	0.72	2.25	16.1	50.5

**Climate Stations:**

		Period					
Station ID	<u>291440</u>	Location	<u>Capitan, New Mexico</u>	From:	<u>01/01/14</u>	To:	<u>07/31/00</u>
Station ID	<u>291931</u>	Location	<u>Cloudcroft, New Mexico</u>	From:	<u>09/01/87</u>	To:	<u>12/31/01</u>
Station ID	<u>297649</u>	Location	<u>Ruidoso 2NNE, New Mexico</u>	From:	<u>01/01/42</u>	To:	<u>07/31/00</u>
Station ID	<u>298015</u>	Location	<u>Sandia Park, New Mexico</u>	From:	<u>01/01/39</u>	To:	<u>12/31/01</u>
Station ID	<u>298018</u>	Location	<u>Tijeras Ranger Stn, New Mexico</u>	From:	<u>1971</u>	To:	<u>2000</u>

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

This site may be 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 deep and well drained. Surface textures are loam to clay loam. The textures of the underlying layers are clay loam at about three to six inches. Permeability is slow and available water-holding capacity is high.

**Parent Material Kind:** Alluvium

**Parent Material Origin:** Mixed

### **Surface Texture:**

1. Loam
2. Clay loam
3.

### **Surface Texture Modifier:**

1. Cobble
2. Stone
3.

**Subsurface Texture Group:** Clayey

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

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

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

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

	<b>Minimum</b>	<b>Maximum</b>
<b>Drainage Class:</b>	Well	Well
<b>Permeability Class:</b>	Slow	Slow
<b>Depth (inches):</b>	60	>72
<b>Electrical Conductivity (mmhos/cm):</b>	N/A	N/A
<b>Sodium Absorption Ratio:</b>	N/A	N/A
<b>Soil Reaction (1:1 Water):</b>	N/A	N/A
<b>Soil Reaction (0.1M CaCl<sub>2</sub>):</b>	N/A	N/A
<b>Available Water Capacity (inches):</b>	9	12
<b>Calcium Carbonate Equivalent (percent):</b>	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

The aspect of this site is that of an open stand of cool-season perennial mid-grasses with scattered shrubs and trees. Forbs are varied and make up a minor but important component of this site.

Canopy Cover:

Trees	5 – 10 %
Shrubs and half shrubs	5 – 10 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	15 – 40
Bare ground	15 – 25
Surface gravel	0
Surface cobble and stone	5 – 20
Litter (percent)	10 – 30
Litter (average depth in cm.)	4

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

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	1,125	1,500	1,875
Forb	120	160	200
Tree/Shrub/Vine	300	400	500
Lichen			
Moss			
Microbiotic Crusts			
<b>Total</b>	1,500	2,000	2,500

**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	200 – 300	200 – 300
2	PASM	Western Wheatgrass	500 – 700	500 – 700
3	KOMA	Prairie Junegrass	100 – 200	100 – 200
4	FEAR	Arizona Fescue	400 – 500	400 – 500
5	ANGE	Big Bluestem	200 – 400	200 – 400
6	SCSC	Little Bluestem	200 – 400	200 – 400
7	BRMA4	Mountain Brome	200 – 400	200 – 400
8	MUMO	Mountain Muhly	300 – 500	300 – 500
9	BLTR	Pine Dropseed	100 – 200	100 – 200
10	BOCU	Sideoats Grama	300 – 400	300 – 400
11	DECA18	Tufted Hairgrass	100 – 200	100 – 200
12	ELEL5	Bottlebrush Squirreltail	200 – 300	200 – 300
13	LYPH	Wolftail	60 – 100	60 – 100
14	ACHNA ACLE9 ACRO7	Needlegrass spp. (Subalpine) Letterman Needlegrass Sleepygrass	200 – 300	200 – 300
15	2GRAM	Other Grasses	100 – 200	100 – 200

**Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
16	VETH	Mullein	60 – 100	60 – 100
17	ERIOG	Wildbuckwheat spp.	60 – 100	60 – 100
18	PENST	Penstemon spp.	60 – 100	60 – 100
19	2FORB	Other Forbs	60 – 100	60 – 100

**Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
20	GUSA2	Broom Snakeweed	60 – 100	60 – 100
21	ARCA14	Carruth Sagewort	100 – 200	100 – 200
22	JUNIP PIED PIPO	Juniper spp. Pinyon Pine Ponderosa Pine	0 – 200	0 – 200
23	DAFL3	Shrubby Cinquefoil	0 – 60	0 – 60
24	2SD	Other Shrubs	0 – 100	0 – 100

**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 grasses that could appear on this site include: New Mexico bluegrass, spike muhly, Thurber fescue, Indiangrass, rush spp., redtop, deergrass, bullgrass, mundula muhly, big squirreltail, pinegrass, black dropseed, oatgrass, Metcalfe muhly, bulb panic, green bristlegrass, muttongrass, pullup muhly, curly mesquite, threeawn spp., creeping muhly, sedge spp., timothy and Kentucky bluegrass.

Other woody species that could appear on this site include: fringed sagewort, snowberry, ceanothus, cliffrose, manzanita, sacahuista, oak spp., yucca spp., sumac spp. and rubber rabbitbrush.

Other forbs that could appear on this site include: geranium, vetch, iris, aster and wild lettuce.

**Plant Growth Curves**

Growth Curve ID 1603NM

Growth Curve Name: HCPC

Growth Curve Description: Cool-season perennial mid-grass with components of shrubs and forbs.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	5	10	25	30	15	7	0	0

## **ECOLOGICAL SITE INTERPRETATIONS**

### **Animal Community:**

Habitat for Wildlife:

This site provides habitats which support a resident animal community that is characterized by elk, deer, gray fox, porcupine, chipmunk, desert cottontail, red and rock squirrels, white-throated woodrat, pinyon mouse, golden eagle, red-tailed hawk, common raven, turkey, harlequin quail, band-tailed pigeon, scrubjay, meadowlark, woodpecker, tiger salamander, short-horned lizard, tree lizard, mountain patchnosed and garter snakes and black-tailed rattlesnake.

The floodplains of river valleys that support deciduous riparian trees provide a unique habitat that supports a large and diverse wildlife population. Irrigated croplands, where they occur, provide seasonal food concentrations that attract large numbers of birds and other wildlife. In addition to the animals noted above, this habitat supports many species of nesting birds and serves as a migration route for others. Where streams, ponds and marshes occur, waterfowl, shore and marsh birds and other wetland species are found.

Bald eagles hunt over this 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>
Ruidoso	C
Sampson	B

### **Recreational Uses:**

This site offers recreation potential for picnicking, camping, horseback riding, nature observation and photography. Hunting for elk and deer is fair to good depending on density of trees and shrubs on the site and cover on adjacent wooded areas. Natural beauty is enhanced by the mountainous surroundings of the site.

### **Wood Products:**

Wood production on this site is limited to a very small amount of fuelwood and fence material from the few scattered pinyon, juniper and ponderosa pine.

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

This site is suitable for grazing by all kinds and classes of livestock during spring, summer and fall. The growing season and grazing season are nearly identical; This puts the more desirable species at a disadvantage. Continuous grazing during this period will result in a decrease of species such as western wheatgrass, prairie junegrass, Arizona fescue, mountain brome, pine dropseed and sideoats grama. This will cause a corresponding increase in bare ground and species such as blue grama, Kentucky bluegrass, sleepygrass, broom snakeweed, cinquefoil, pinyon and juniper. A system of grazing that rotates the season or time of use is the most effective in maintaining or improving this plant community.

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

<b>Similarity Index</b>	<b>Ac/AUM</b>
100 - 76	1.5 – 2.4
75 – 51	2.2 – 3.0
50 – 26	2.9 – 4.9
25 – 0	4.9+

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
Big Bluestem	Andropogon gerardii	EP	D	D	D	D	D	D	D	D	D	D	D	D
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	P	P	D	D	D
Mountain Muhly	Muhlenbergia montana	EP	D	D	D	D	D	D	D	D	D	D	D	D
Pine Dropseed	Blepharoneuron tricholepis	EP	D	D	D	D	D	D	D	D	D	D	D	D
Arizona Fescue	Festuca arizonica	EP	D	D	D	D	D	D	D	D	D	D	D	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	P	P	P	P	P	P	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Tufted Hairgrass	Deschampsia caespitosa	EP	D	D	P	P	P	P	P	P	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Wildbuckwheat	Eriogonum spp.	EP	U	U	D	D	D	D	D	D	U	U	U	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
Prairie Junegrass	Koeleria macrantha	EP	U	U	D	D	D	U	U	U	U	U	U	U
Pine Dropseed	Blepharoneuron tricholepis	EP	D	D	D	D	D	D	D	D	D	D	D	D
Arizona Fescue	Festuca arizonica	EP	D	D	D	D	D	D	D	D	D	D	D	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Wildbuckwheat	Eriogonum spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Penstemon	Penstemon spp.	EP	U	U	D	D	D	D	D	D	U	U	U	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: Lincoln, Otero, Torrance

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 Arizona and New Mexico Mountains 39 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Eddy, Otero, Lincoln and South Chavez Soil Surveys.

**Characteristic Soils Are:**

Ruidoso | Sampson

**Other Soils included are:**

**Site Description Approval:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	09/17/81	Don Sylvester	09/17/81

**Site Description Revision:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	03/07/03	George Chavez	10/31/03