

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

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R048BY006NM

**Site Name:** Mountain Slopes

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

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

## **PHYSIOGRAPHIC FEATURES**

### **Narrative:**

This site occurs on mountain toe slopes and foothills ranging from relatively uniform, long slopes to short choppy hills. Exposure is usually southern and/or western, which creates a relatively droughty site. Slopes range from 15 to 45 percent. Elevation ranges from 7,400 to 8,900 feet above sea level.

### **Land Form:**

1. Mountain slope

2.

3.

### **Aspect:**

1. Southern and/or western

2.

3.

	<b>Minimum</b>	<b>Maximum</b>
<b>Elevation (feet)</b>	7,400	8,900
<b>Slope (percent)</b>	15	45
<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:**

Medium to rapid.

## CLIMATIC FEATURES

### **Narrative:**

The climate is characterized by cold, wet winters in which more than 50 percent of the total annual precipitation is received during the winter. The balance of the precipitation is received in the summer months, some of it in the form of high intensity thunderstorms. Average annual precipitation is about 22 inches but ranges from 16 to 30 inches and yearly fluctuations are common.

The average frost-free period is about 80 days but ranges from 60 days at the highest elevations to 110 days at the lowest elevations; however, the period lengths vary. The average last killing frost in the spring occurs about June 10<sup>th</sup>. The average first killing frost in the fall occurs about September 20<sup>th</sup>. Average annual air temperature is 22.6 degrees F in January and 64.5 degrees F in July with extremes ranging from -40 degrees F to 95 degrees F.

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>	67	93
<b>Freeze-free period (days):</b>	95	115
<b>Mean annual precipitation (inches):</b>	16	30

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

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.67	1.91	2.1	39.7
February	0.61	1.70	7.0	44.1
March	1.01	1.85	14.5	50.5
April	0.97	1.75	21.8	60.1
May	0.99	1.79	28.7	69.9
June	0.83	1.29	35.0	80.6
July	1.81	2.90	40.8	85.2
August	2.34	3.18	40.2	82.1
September	1.25	1.98	32.9	76.1
October	0.96	1.72	22.5	65.7
November	0.74	1.37	13.5	51.3
December	0.70	1.79	4.8	41.9

**Climate Stations:**

Station ID	Location	From:	To:
291664	Chama, New Mexico	01/01/14	12/31/01
292700	Eagle Nest, New Mexico	11/01/37	12/31/01
292837	El Vado Dam, New Mexico	09/01/23	12/31/01
297323	Red River, New Mexico	01/01/15	12/31/01

**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 generally shallow to moderately deep over interbedded shale and sandstone parent materials. Frequently, the soil profile is high in the amount of coarse fragments, gravels, cobbles and some stones. Surface textures range from very fine sandy loams to silty clay loams and clay loams. Subsoils range from silt loams and clay loams to clays. Permeability is moderate to slow. Available water-holding capacity is low to moderate. Runoff is medium too rapid depending on slope and vegetative cover. Water erosion is moderate to high.

**Parent Material Kind:** Colluvium

**Parent Material Origin:** Mixed

### **Surface Texture:**

1. Very fine sandy loam
2. Silty clay loam
3. Clay loam

### **Surface Texture Modifier:**

1. Gravel
2. Cobble
3. Stone

**Subsurface Texture Group:** Clayey

**Surface Fragments <=3" (% Cover):** 15 to 60

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

**Subsurface Fragments <=3" (%Volume):** 15 to 60

**Subsurface Fragments >=3" (%Volume):** 15 to 60

	<b>Minimum</b>	<b>Maximum</b>
<b>Drainage Class:</b>	Well	Well
<b>Permeability Class:</b>	Very slow	Moderate
<b>Depth (inches):</b>	10	>72
<b>Electrical Conductivity (mmhos/cm):</b>	0.00	2.00
<b>Sodium Absorption Ratio:</b>	0.00	0.00
<b>Soil Reaction (1:1 Water):</b>	6.6	7.8
<b>Soil Reaction (0.1M CaCl<sub>2</sub>):</b>	N/A	N/A
<b>Available Water Capacity (inches):</b>	3	9
<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

This is a shrub-grass site with an overstory of scattered Rocky Mountain juniper, pinyon pine and ponderosa pine. Gambel oak is the dominant woody species and occurs in colonies. Warm and cool-season grasses provide the largest percentage of annual vegetation produced with woody species a close second. Forbs are abundant and diverse throughout the site.

Canopy Cover:

Trees, shrubs and half-shrubs (average)	15 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	23
Bare ground	42
Surface gravel	15
Surface cobble and stone	5
Litter (percent)	15
Litter (average depth in cm.)	2

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

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	390	546	702
Forb	40	56	72
Tree/Shrub/Vine	40	56	72
Lichen			
Moss			
Microbiotic Crusts			
<b>Total</b>	500	700	900

**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	56 – 84	56 – 84
2	HECO26	Needleandthread	35 – 70	35 – 70
3	BOCU SCSC	Sideoats Grama Little Bluestem	35 – 70	35 – 70
4	MUMO	Mountain Muhly	35 – 70	35 – 70
5	ACHY	Indian Ricegrass	35 – 49	35 – 49
6	BOGR2 PLJA	Blue Grama Galleta	35 – 49	35 – 49
7	POFE KOMA	Muttongrass Prairie Junegrass	21 – 35	21 – 35
8	FEAR2	Arizona Fescue	21 – 35	21 – 35
9	BLTR LYPH ACLE9 CAFI 2GRAM	Pine Dropseed Wolftail Letterman Needlegrass Threadleaf Sedge Other Grasses	21 – 35	21 – 35

**Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	PENST CACO17 GILIA ERIGE2 ERIOG 2FORB	Penstemon Indian Paintbrush Gilia Fleabane Wildbuckwheat spp. Other Forbs	35 – 70	35 – 70

**Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	QUGA ARFR4 QUERC	Gambel Oak Fringed Sagewort Oak spp.	70 – 105	70 – 105
12	ARTR2 ARAR8	Mountain Big Sagebrush Little Sagebrush	21 – 35	21 – 35
13	RHTR PUTR2 MAREL1 CEMOP	Skunkbush Sumac Antelope Bitterbrush Creeping Mahonia Hairy Mountainmahogany	21 – 35	21 – 35
14	PIPO JUSC2	Ponderosa Pine Rocky Mountain Juniper	0 – 21	0 – 21
15	2SD	Other Shrubs	7 – 21	7 – 21

**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 on this site include: bottlebrush squirreltail, spike muhly, hairy grama, Thurber fescue, alkali sacaton, sleepygrass, lupine, silverleaf cinquefoil, western yarrow, broom snakeweed, winterfat, fourwing saltbush, currant, pingue, threadleaf groundsel and rabbitbrush spp.

**Plant Growth Curves**

Growth Curve ID 3306NM

Growth Curve Name: HCPC

Growth Curve Description: Warm and cool-season grass-shrubland with a component of 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 is important for its food and cover, as it is somewhat of a transition zone between the grasslands and the true woodlands. This site provides habitats which support a resident animal community that is characterized by elk, mule deer, coyote, porcupine, mountain cottontail, Mexican woodrat, northern pocket gopher, Colorado chipmunk, raven, gray jay, turkey and blue grouse. During years of high oak mast production, hand-tailed pigeon and black bear extensively utilize 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
Nabor	B

**Recreational Uses:**

This site is well suited to hunting, hiking and nature observation. It is a beautiful site to observe in the fall when the oak leaves are changing. Its natural beauty is enhanced by the close proximity to the high mountain setting.

**Wood Products:**

Wood products on this site are generally limited to fuelwood, fence posts and landscape trees. This site, however, should not be considered a major source of wood products on a sustained yield basis.

**Other Products:**

**Grazing:**

Approximately 75 percent of the vegetation produced on this site are suitable for grazing and browsing by domestic livestock and wildlife. Grazing distribution can be a problem on steeper slopes. Water, salt, trail construction and herding help to spread grazing pressure out over the site.

Deterioration of the potential plant community is indicated by a decrease in western wheatgrass, sideoats grama, mountain muhly, Indian ricegrass, muttongrass and prairie junegrass. Species that increase include blue grama, galleta, hairy grama, little bluestem, Gambel oak, big sagebrush and rabbitbrush. A planned grazing system with periodic grazing and rest is best to maintain the natural balance between plant species and to maintain high productivity.

In addition to domestic livestock, deer, elk, small mammals and birds also use this site.

**Other Information:**

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

<b>Similarity Index</b>	<b>Ac/AUM</b>
100 - 76	3.5 – 4.6
75 – 51	4.5 – 6.9
50 – 26	6.8 – 13.8
25 – 0	13.8+

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
Needleandthread	Hesperostipa comata	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
Mountain Muhly	Muhlenbergia montana	EP	D	D	D	D	D	D	D	D	D	D	D	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Muttongrass	Poa fendleriana	EP	P	P	P	P	P	P	P	P	P	P	P	P
Arizona Fescue	Festuca arizonica	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
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	P	P	P	P	P	P	D	D	D

**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
Muttongrass	Poa fendleriana	EP	P	P	P	P	P	P	P	P	P	P	P	P
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Pine Dropseed	Blepharoneuron tricholepis	EP	D	D	D	D	D	D	D	D	D	D	D	D
Mountain Muhly	Muhlenbergia montana	EP	D	D	D	D	D	D	D	D	D	D	D	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	D	D	D	D	D	D	P
Threadleaf Sedge	Carex filifolia	EP	U	U	D	D	D	U	U	U	U	U	U	U
Winterfat	Krascheninnikovia lanata	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Fringed Sagewort	Artemisia frigida	L/S	D	D	D	U	U	U	U	U	U	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:** Elk

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Willow	Salix spp.	L/S	D	D	U	U	U	D	D	D	D	D	D	D
Wheatgrass spp.	Pascopyrum spp.	EP	D	D	D	P	P	P	D	D	D	D	D	D
Bromegrass spp.	Bromus spp.	EP	D	D	D	D	D	D	D	D	D	D	D	D
Fescue spp.	Festuca spp.	EP	D	D	D	D	D	D	D	D	D	D	D	D
Needlegrass	Achnatherum spp.	EP	D	D	D	D	D	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Orchardgrass	Dactylis glomerata	EP	D	D	D	D	D	D	D	D	D	D	D	D
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P
Marigold spp.	Baileya spp.	EP	U	U	D	D	D	D	D	D	D	D	D	U

**Animal Kind:** Wildlife

**Animal Type:** Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Hairy Mountainmahogany	Cercocarpus montanus	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Aspen	Populus spp.	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Wildbuckwheat	Eriogonum spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Fleabane	Erigeron spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Larkspur	Delphinium confertiflorum	EP	U	U	D	D	D	D	D	D	U	U	U	U
Globemallow	Sphaeralcea spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Astragalus	Astragalus spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Sweet Clover	Melilotus spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Lupine	Lupinus alpestris	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
Indian Paintbrush	Castilleja coccinea	EP	U	U	D	D	D	D	D	D	U	U	U	U
Dandelion	Agoseris spp.	EP	U	U	P	P	P	D	D	D	D	D	D	U
Geranium	Geranium spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Fringed Sagewort	Artemisia frigida	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Aster	Aster spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Balsamroot (Arrowleaf)	Balsamorhiza sagittata	EP	U	U	P	P	P	P	P	P	U	U	U	U
Thistle	Cirsium spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Dock	Rumex spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Clover	Trifolium spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Phlox	Phlox spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U

## **SUPPORTING INFORMATION**

### **Associated sites:**

<b>Site Name</b>	<b>Site ID</b>	<b>Site Narrative</b>

### **Similar sites:**

<b>Site Name</b>	<b>Site ID</b>	<b>Site Narrative</b>

### **State Correlation:**

This site has been correlated with the following sites: \_\_\_\_\_

### **Inventory Data References:**

<b>Data Source</b>	<b># of Records</b>	<b>Sample Period</b>	<b>State</b>	<b>County</b>

### **Type Locality:**

State: New Mexico

County: McKinley, Rio Arriba, Sandoval, Santa Fe, 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 Southern Rocky Mountains 48 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Taos, Santa Fe, Rio Arriba, Los Alamos, and Sandoval county surveys.

### **Characteristic Soils Are:**

Nabor	

### **Other Soils included are:**

--	--

### **Site Description Approval:**

<b><u>Author</u></b>	<b><u>Date</u></b>	<b><u>Approval</u></b>	<b><u>Date</u></b>
Don Sylvester	03/25/82	Don Sylvester	03/25/82

### **Site Description Revision:**

<b><u>Author</u></b>	<b><u>Date</u></b>	<b><u>Approval</u></b>	<b><u>Date</u></b>
Elizabeth Wright	02/28/03	George Chavez	10/31/03