

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R048BY001NM

Site Name: Mountain Breaks

Precipitation or Climate Zone: 16 to 30 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on mesa and canyon side-slopes and other mountain breaks. The site consists of productive areas interspersed with areas of low production, rock outcrop and badland. Slopes and exposure vary. Slopes range from 15 to 45 percent. Elevation ranges from 7,400 to 8,600 feet above sea level.

Land Form:

1. Break
2. Scarp slope
- 3.

Aspect:

1. N/A
- 2.
- 3.

	Minimum	Maximum
Elevation (feet)	7,400	8,600
Slope (percent)	15	45
Water Table Depth (inches)	N/A	N/A
	Minimum	Maximum
Flooding:		
Frequency	N/A	N/A
Duration	N/A	N/A
	Minimum	Maximum
Ponding:		
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	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 10th. The average first killing frost in the fall occurs about September 20th. 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.

	Minimum	Maximum
Frost-free period (days):	67	93
Freeze-free period (days):	95	115
Mean annual precipitation (inches):	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:

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

Soil depths and textures vary depending on slope, exposure, parent material and vegetative cover. Depths range from very shallow to moderately deep. The soil profile is generally high in coarse fragments. Surface textures range from channery and extremely channery sandy loams to loams. Subsoils range from loams and channery loams to clay loams and channery clay loams. Boulders are scattered about the site. Permeability is moderate. Available water-holding capacity is low to moderate and runoff is medium to rapid depending on vegetative cover, slope and soils. There usually are pockets on the site where run-in of precipitation results in good soil-moisture relationships.

Parent Material Kind: Colluvium

Parent Material Origin: Mixed

Surface Texture:

1. Channery sandy loam

2. Channery loam

3. Extremely channery sandy loam

4. Extremely channery loam

Surface Texture Modifier:

1. Channery

2. Boulder

3.

Subsurface Texture Group: Loamy

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

Surface Fragments >3" (% Cover): 35 to 60

Subsurface Fragments <=3" (%Volume): 35 to 60

Subsurface Fragments >=3" (%Volume): 35 to 60

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Very slow	Moderate
Depth (inches):	<10	40
Electrical Conductivity (mmhos/cm):	0.00	4.00
Sodium Absorption Ratio:	0.00	1.00
Soil Reaction (1:1 Water):	5.6	8.4
Soil Reaction (0.1M CaCl₂):	N/A	N/A
Available Water Capacity (inches):	3	9

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

Vegetation on this site is diverse. Grasses dominate the deeper, more productive soils while less developed soils are dominated by shrubs with a tree overstory. Colonies of scrub Gambel oak are scattered throughout the site. Forbs are most noticeable when in bloom.

Canopy Cover:

Trees, Shrubs and half shrubs (average)	25 %
Shrubs and half shrubs	
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	<u>27</u>
Bare ground	<u>33</u>
Surface gravel	<u>18</u>
Surface cobble and stone	<u>5</u>
Litter (percent)	<u>17</u>
Litter (average depth in cm.)	<u>3</u>

Plant Community Annual Production (by plant type): _____

Plant Type	<u>Annual Production (lbs/ac)</u>		
	Low	RV	High
Grass/Grasslike	360	510	660
Forb	48	68	88
Tree/Shrub/Vine	150	213	275
Lichen			
Moss			
Microbiotic Crusts			
Total	600	850	1,100

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	FEAR	Arizona Fescue	85 – 128	85 – 128
2	MUMO ACNEN2	Mountain Muhly Columbia Needlegrass	43 – 85	43 – 85
3	HECO26 ACHY	Needleandthread Indian Ricegrass	26 – 85	26 – 85
4	PASM MUWR	Western Wheatgrass Spike Muhly	26 – 85	26 – 85
5	BOCU SCSC BLTR	Sideoats Grama Little Bluestem Pine Dropseed	26 – 60	26 – 60
6	KOMA POFE	Prairie Junegrass Muttongrass	9 – 43	9 – 43
7	BOGR2 PLJA 2GRAM	Blue Grama Galleta Other Grasses	26 – 43	26 – 43

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
8	LOTUS CACO17 ERIOG ERIGE2 PENST VISA 2FORB	Deervetch spp. Indian Paintbrush Wildbuckwheat spp. Fleabane spp. Penstemon spp. Sweetpea Other Forbs	43 – 85	43 – 85

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
9	QUGA QUERC	Gambel Oak Oak spp.	26 – 60	26 – 60
10	CEMOP ATCA2 KRLA2	Hairy Mountainmahogany Fourwing Saltbush Winterfat	9 – 60	9 – 60
11	ARTR2 ARFR4 CHRYS	Mountain Big Sagebrush Fringed Sagewort Rabbitbrush spp.	9 – 60	9 – 60
12	SYAL RIMO2 RHTR	Snowberry Currant Skunkbush Sumac	9 – 26	9 – 26
13	JUSC2 PIED	Rocky Mountain Juniper Pinyon Pine	0 – 26	0 – 26
14	2SD	Other Shrubs	0 – 43	0 – 43

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: Thurber fescue, sheep fescue, bottlebrush squirreltail, sleepygrass, gooseberry, elderberry, broom snakeweed, green sagewort, gilia and lupine.

Plant Growth Curves

Growth Curve ID 3301NM

Growth Curve Name: HCPC

Growth Curve Description: Grass with a major component of shrubs and an overstory of trees and a minor 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 provides habitats which support a resident animal community that is characterized by elk, mule deer, mountain lion, bobcat, long-tailed weasel, mountain cottontail, rock squirrel, bush-tailed woodrat, brush mouse, raven, blue grouse, Townsend solitaire and short-honed lizard. If rock faces and cliffs occur, these sites provide nesting for prairie and peregrine falcon and the white-throated swift.

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
Cabba	?
Calendar	C
Ess	B
Sojo	?
Ustorthents	?
Wellsville	B
Widen	?

Recreational Uses:

This site is well suited to hunting, hiking and nature observation. The high-mountain setting nearby enhances the natural beauty of this site.

Wood Products:

Very little potential for wood products exists on this site.

Other Products:

Grazing:

Approximately 75 percent of the vegetation produced on this site is suitable for grazing or browsing by domestic livestock and wildlife. Grazing distribution is a problem due to the site's association with steep and rocky landscapes. Salting, herding and trail construction helps to improve grazing distribution on this site. Deterioration of the potential plant community is indicated by a decrease in such species as Arizona fescue, mountain muhly, western wheatgrass, prairie junegrass, winterfat and fourwing saltbush. Species that increase include blue grama, galleta, sleepygrass, big sagebrush, rabbitbrush and other undesirable woody species. A planned grazing system with periodic grazing and rest is best to maintain the natural balance between plant species and to maintain high productivity. This site appears better suited for sheep and goats than cattle due to the terrain and the potential plant community. It is also well suited to deer, elk, small mammals and birds.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	4.4 – 5.7
75 – 51	5.6 – 8.6
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
Arizona Fescue	<i>Festuca arizonica</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Mountain Muhly	<i>Muhlenbergia montana</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Columbia Needlegrass	<i>Achnatherum nelsonii</i>	EP	D	D	D	P	P	P	D	D	D	D	D	D
Indian Ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	<i>Pascopyrum smithii</i>	EP	D	D	D	P	P	P	D	D	D	D	D	D
Prairie Junegrass	<i>Koeleria macrantha</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Muttongrass	<i>Poa fendleriana</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Sideoats Grama	<i>Bouteloua curtipendula</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Sheep Fescue	<i>Festuca ovina</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Spike Muhly	<i>Muhlenbergia wrightii</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Pine Dropseed	<i>Blepharoneuron tricholepis</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Winterfat	<i>Krascheninnikovia lanata</i>	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
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
Fourwing Saltbush	<i>Atriplex canescens</i>	L/S	P	P	P	P	P	D	D	D	D	D	P	P
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Muttongrass	<i>Poa fendleriana</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Prairie Junegrass	<i>Koeleria macrantha</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Western Wheatgrass	<i>Pascopyrum smithii</i>	EP	U	U	D	D	D	D	D	D	D	D	D	U
Sheep Fescue	<i>Festuca ovina</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Sideoats Grama	<i>Bouteloua curtipendula</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Pine Dropseed	<i>Blepharoneuron tricholepis</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Spike Muhly	<i>Muhlenbergia wrightii</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Mountain Muhly	<i>Muhlenbergia montana</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Fringed Sagewort	<i>Artemisia frigida</i>	L/S	D	D	D	U	U	U	U	U	U	D	D	D

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
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
Dandelion	Agoseris spp.	EP	U	U	P	P	P	D	D	D	D	D	D	U
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: Mule Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Serviceberry	Amelanchier utahensis	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Hairy Mountainmahogany	Cercocarpus montanus	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Cliffrose	Purshia mexicana	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
Buckthorn (Graythorn)	Zizphus obtusifolia	L/S	D	D	D	D	D	D	D	D	D	D	D	D
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
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
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

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: 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:

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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:

Ess	Wellsville
Ustorthents	

Other Soils included are:

Cabba, Calendar, Sojo, Widen	
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Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	03/23/82	Don Sylvester	03/23/82

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	02/25/03	George Chavez	10/31/03