

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R039XB018NM

Site Name: Mountain Swale

Precipitation or Climate Zone: 14 to 18 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs in small drainages and low-lying areas where run-on water is received. It does not occupy major overflow areas, however. Slopes range from 1 percent to 5 percent and elevations range upward from about 7,000 feet above sea level.

Land Form:

1. Swale
2. Drainageway
- 3.

Aspect:

1. N/A
- 2.
- 3.

	Minimum	Maximum
Elevation (feet)	7,000	8,000
Slope (percent)	1	5
Water Table Depth (inches)	N/A	N/A
	Minimum	Maximum
Flooding:		
Frequency	Rare	Occasional
Duration	Very brief	Brief
	Minimum	Maximum
Ponding:		
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

Average annual precipitation varies from approximately 14 to 18 inches, depending upon where the site is found. Year to year fluctuations in precipitation is common. Half or more of the precipitation occurring during the late fall through early spring period, often in the form of snow. The balance of the precipitation falls typically from mid June through September and is characterized by short-duration, high intensity thunderstorms.

The average frost-free season is about 103 days but is highly variable from location to location. The last killing frost in the spring occurs about June 1st, and the first killing frost in the fall normally occurs by October 1st. Lighter frosts may occur anytime in June and again in late August or early September. Average annual air temperature is about 50 degrees F. Monthly average air temperatures vary from 30 degrees F in January to just under 70 degrees F in August.

Both the air temperature and moisture regimes of this climate favor cool-season vegetation.

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):	81	112
Freeze-free period (days):	105	133
Mean annual precipitation (inches):	14	18

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

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.79	1.00	11.1	48.2
February	.74	.81	15.0	51.6
March	.70	.85	18.3	58.3
April	.45	.65	22.3	66.4
May	.50	.56	28.5	74.5
June	.60	.74	36.3	83.6
July	2.37	2.99	46.7	84.3
August	3.15	3.29	45.5	81.1
September	1.81	2.01	37.8	77.8
October	1.15	1.57	26.5	68.8
November	.48	.84	16.3	57.3
December	1.03	1.21	11.2	49.8

Climate Stations:

Station ID	Location	Period	
		From:	To:
290818	Beaverhead Ranger Station, NM	01/01/39	12/31/00
295273	Luna Ranger Station, NM	01/01/14	12/31/00
294375	Jewett Ranger Station, NM	01/01/33	09/30/67

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 of this site are deep and well drained. Surfaces range from sandy loams to clay loams and subsoils are typically fine textured. Available water-holding capacity is high and permeability moderately slow.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Sandy loam
2. Loam
3. Clay loam

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Clayey

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

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

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

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

	Minimum	Maximum
Drainage Class:	<u>Well</u>	<u>Well</u>
Permeability Class:	<u>Slow</u>	<u>Moderately slow</u>
Depth (inches):	<u>60</u>	<u>>72</u>
Electrical Conductivity (mmhos/cm):	<u>0</u>	<u><2</u>
Sodium Absorption Ratio:	<u>N/A</u>	<u>N/A</u>
Soil Reaction (1:1 Water):	<u>7.4</u>	<u>7.8</u>
Soil Reaction (0.1M CaCl2):	<u>N/A</u>	<u>N/A</u>
Available Water Capacity (inches):	<u>9</u>	<u>12</u>
Calcium Carbonate Equivalent (percent):	<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 a potentially productive grassland with few shrubs and half-shrubs and no trees. Western wheatgrass may either dominate the site or co-dominate with slender wheatgrass. Forbs are relatively minor in proportion to grasses, but include crested prickly poppy, Rocky Mountain beeplant, green sagewort, milkweeds, thistles, asters, and Mexican crownbeard.

Canopy Cover:

Trees	0
Shrubs and half shrubs	3 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	45
Bare ground	34
Surface gravel	1
Surface cobble and stone	0
Litter (percent)	20
Litter (average depth in cm.)	3

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	1,125	1,313	1,500
Forb	120	140	160
Tree/Shrub/Vine	300	350	400
Lichen			
Moss			
Microbiotic Crusts			
Total	1,500	1,750	2,000

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 ELTR7	Western Wheatgrass Slender Wheatgrass	613 – 875	613 – 875
2	MUWR	Spike Muhly	175 – 263	175 – 263
3	ELEL5	Bottlebrush Squirreltail	53 – 140	53 – 140
4	DECA18	Tufted Hairgrass	88 – 175	88 – 175
5	BOSA	Silver Bluestem	18 – 88	18 – 88
6	BOGR2	Blue Grama	88 – 175	88 – 175
7	2GRAM	Other Grasses	53 – 140	53 – 140

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
8	2FP	Perennial Forbs	53 – 140	53 – 140
9	2FA	Annual Forbs	18 – 53	18 - 53

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	RHTR FAPA ARFT4	Skunkbush Sumac Apacheplume Fringed Sagewort	18 – 88	18 – 88
11	2SD	Other Shrubs	18 – 53	18 - 53

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 include: threeawns spp., wolftail, mat muhly, creeping muhly, cane bluestem, broom snakeweed, Carruth sagewort, winterfat, Arizona fescue, muttongrass, and brome spp. Kentucky bluegrass and redtop may have become naturalized to the site.

Plant Growth Curves

Growth Curve ID 1308NM

Growth Curve Name: HCPC

Growth Curve Description: Grassland with few shrubs and half-shrubs and a minor component of 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 coyote, badger, eastern cottontail, thirteen-lined ground squirrel, Gunnison's prairie dog, Botta's pocket gopher, sparrow hawk, mourning dove, horned lark, tiger salamander, short-horned lizard, Sonoran gopher snake and prairie rattlesnake.

Elk and deer range into the site and golden eagle and common raven hunt over it.

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
Brycan	B

Recreational Uses:

This site has relatively few limitations for such activities as horseback riding, hiking, and picnicking. Camping sites are more properly located on higher ground, however, and the potential for gully erosion started by trails should be considered in all activities. Hunting opportunities are normally poor although deer and elk may use the site on occasion. Natural beauty is related largely to the mountainous setting within which the site is located.

Wood Products:

There is no significant potential for wood products on this site.

Other Products:

Grazing:

Approximately 90 percent of the vegetative production on this site come from plants that produce forage for grazing animals, including domestic livestock. The site can be highly productive but because of its location with respect to other sites, easy access, and the high palatability of its dominant vegetation for livestock, it is frequently subject to gully erosion, and deterioration of the plant community is often connected with this condition. Because it is seldom practical to fence and control stocking on this site separately, a grazing system that provides frequent periods of rest in the spring and fall seasons may be the best approach to maintaining a vigorous, well-balanced plant community. Continuous yearlong grazing, especially if heavy, will generally cause a decrease of western wheatgrass and other cool-season grasses typical of the site. Blue grama, half-shrubs, and other lesser value plants will then take over and production decreases substantially.

Seasonally, deer and elk may use this site heavily, as might certain small mammals.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 – 76	1.2 – 2.0
75 – 51	1.5 – 3.0
50 – 26	2.5 – 5.0
25 – 0	5.0+

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	<i>Pascopyrum smithii</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Slender Wheatgrass	<i>Elymus trachycalus</i>	EP	D	D	P	P	P	P	P	P	P	P	P	D
Spike Muhly	<i>Muhlenbergia wrightii</i>	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
Bottlebrush Squirreltail	<i>Elymus elymoides</i>	EP	U	U	D	D	D	U	U	U	D	D	D	U
Tufted Hairgrass	<i>Deschampsia caespitosa</i>	EP	D	D	P	P	P	P	P	P	D	D	D	D
Fringed Sagewort	<i>Artemisia frigida</i>	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
Muttongrass	<i>Poa fendleriana</i>	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
Arizona Fescue	<i>Festuca arizonica</i>	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
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	D	D	P	P	P	P	P	P	D	D	D	D

Animal Kind: Livestock

Animal Type: Horses

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	<i>Pascopyrum smithii</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Slender Wheatgrass	<i>Elymus trachycalus</i>	EP	D	D	P	P	P	P	P	P	P	P	P	D
Spike Muhly	<i>Muhlenbergia wrightii</i>	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
Bottlebrush Squirreltail	<i>Elymus elymoides</i>	EP	U	U	D	D	D	U	U	U	D	D	D	U
Tufted Hairgrass	<i>Deschampsia caespitosa</i>	EP	D	D	P	P	P	P	P	P	D	D	D	D
Fringed Sagewort	<i>Artemisia frigida</i>	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
Muttongrass	<i>Poa fendleriana</i>	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
Arizona Fescue	<i>Festuca arizonica</i>	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
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	D	D	P	P	P	D	D	D	D	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
Western Wheatgrass	<i>Pascopyrum smithii</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Slender Wheatgrass	<i>Elymus trachycalus</i>	EP	D	D	P	P	P	P	P	P	P	P	P	D
Spike Muhly	<i>Muhlenbergia wrightii</i>	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
Bottlebrush Squirreltail	<i>Elymus elymoides</i>	EP	U	U	D	D	D	U	U	U	D	D	D	U
Tufted Hairgrass	<i>Deschampsia caespitosa</i>	EP	D	D	P	P	P	P	P	P	D	D	D	D
Fringed Sagewort	<i>Artemisia frigida</i>	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
Muttongrass	<i>Poa fendleriana</i>	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
Arizona Fescue	<i>Festuca arizonica</i>	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
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	D	D	P	P	P	P	P	P	D	D	D	D

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
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
Annual 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
Fringed Sagewort	<i>Artemisia frigida</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Carruth Sagewort	<i>Artemisia carruthii</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D

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, Grant, Sierra, 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 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: Socorro, Catron, Sierra and Grant.

Characteristic Soils Are:

Brycan

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	05/14/02	George Chavez	2/12/03