

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R039XB014NM

Site Name: Stony Loam

Precipitation or Climate Zone: 16 to 20 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

Topography is gently rolling to rolling with extremes in slopes ranging from 0 to 40 percent. Elevations vary between 7,000 and about 9,000 feet above sea level, but are more typically in the 7,500 foot to 8,500 foot range.

Land Form:

1. Mountain slope

2.

3.

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	7,000	9,000
Slope (percent)	0	40
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:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

Average annual precipitation varies from approximately 16 to 20 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 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):	16	20

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:**

Surfaces are thin gravelly loams and clay loams. Subsurfaces are stony or cobbly. Soils are moderately deep to deep. They may be formed over basalt but seldom include outcroppings. Available water-holding capacity is moderate to high; permeability is moderate to slow.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Cobbly loam
2. Very gravelly loam
3. Gravelly loam
4. Cobbly sandy loam

Surface Texture Modifier:

1. Gravel
2. Cobble
3. Stone

Subsurface Texture Group: Clayey

Surface Fragments $\leq 3''$ (% Cover): 15 to 60

Surface Fragments $> 3''$ (% Cover): 15 to 35

Subsurface Fragments $\leq 3''$ (%Volume): 15 to 60

Subsurface Fragments $\geq 3''$ (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	<u>Well</u>	<u>Well</u>
Permeability Class:	<u>Very slow</u>	<u>Moderately slow</u>
Depth (inches):	<u>20</u>	<u>40</u>
Electrical Conductivity (mmhos/cm):	<u>N/A</u>	<u>N/A</u>
Sodium Absorption Ratio:	<u>N/A</u>	<u>N/A</u>
Soil Reaction (1:1 Water):	<u>6.1</u>	<u>7.8</u>
Soil Reaction (0.1M CaCl₂):	<u>N/A</u>	<u>N/A</u>
Available Water Capacity (inches):	<u>6</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 is a grassland site with few if any trees. Cool-season grasses predominate. Shrubs are sparse and normally restricted to north-facing slopes and higher elevations. Forbs such as trailing fleabane, wildbuckwheat, globemallow, sageworts, and Indian paintbrush are noticeable but do not make up a substantial proportion of the potential plant community.

Canopy Cover:

Trees	0
Shrubs and half shrubs	3 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	26
Bare ground	30
Surface gravel	10
Surface cobble and stone	20
Litter (percent)	14
Litter (average depth in cm.)	2

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	620	770	920
Forb	62	77	92
Tree/Shrub/Vine	78	96	115
Lichen			
Moss			
Microbiotic Crusts			
Total	775	963	1,150

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	FEAR2	Arizona Fescue	193 – 289	193 – 289
2	BOGR2	Blue Grama	48 – 145	48 – 145
3	POFE KOMA	Muttongrass Prairie Junegrass	145 – 193	145 – 193
4	MUPA2 MUMO MULO	New Mexico Muhly Mountain Muhly Longtongue Muhly	96 – 145	96 – 145
5	MUWR	Spike Muhly	10 – 48	10 – 48
6	ELEL5 PASM	Bottlebrush Squirreltail Western Wheatgrass	48 – 96	48 – 96
7	ANGE SCSC	Big Bluestem Little Bluestem	29 – 77	29 – 77
8	2GRAM	Other Grasses	29 – 48	29 - 48

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
9	2FP	Perennial Forbs	29 – 77	29 – 77
10	2FA	Annual Forbs	10 – 29	10 - 29

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	RHTR	Skunkbush Sumac	29 – 48	29 – 48
12	ERICA	Rabbitbrush spp.	10 – 29	10 – 29
13	2SD	Other Shrubs	10 – 48	10 - 48

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 may include: needlegrass spp., wolftail, threeawns, pine dropseed, and muhlenbergia spp.

Other woody plants may include: broom snakeweed, pinyon, juniper, Apacheplume, fringed sagewort and oak spp.

Plant Growth Curves

Growth Curve ID 1304NM

Growth Curve Name: HCPC

Growth Curve Description: Grassland with minor components of shrubs and 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 gray fox, eastern cottontail, thirteen-lined ground squirrel, Botta's pocket gopher, sparrow hawk, mourning dove, horned lark, meadow lark, short-horned lizard, Chihuahua whiptail, Sonora gopher snake, and prairie rattlesnake.

Elk and deer range into the site and golden eagle and common raven 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

Soil Series	Hydrologic Group
Adobe	D
Barella	C
Midnight	D
Slash	C
Smilo	C

Recreational Uses:

The site offers recreation potential for picnicking, hiking, horseback riding, nature observation and photography. Camping sites may be limited by stony or cobbly surfaces. Hunting is limited although elk may use the site. Natural beauty is tied closely to the mountainous setting within which the site occurs.

Wood Products:

This site has no significant potential for wood products naturally.

Other Products:

Grazing:

Approximately 80 percent of the annual vegetative production on this site come from species that produce forage for grazing animals. In some areas the site may be suited to spring, summer or fall uses only; in others use may be year round. However, continuous use in the same season, year after year, may result in a decline in range conditions. Continued heavy use will almost result in such a decline, with cool-season plants such as Arizona fescue being the first to go. Blue grama increases under such circumstances and may eventually dominate the site in a sod-like, low-vigor form that is very unproductive when compared to the potential plant community. Shrubs, half-shrubs and annuals also increase as condition declines. A system of deferred grazing that varies the season of use from year to year is needed to maintain a healthy balance of plants in the plant community. Deferment during late spring is especially helpful to cool-season species. In addition to domestic livestock, elk, deer, small mammals, and birds also use the site.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	2.8 – 3.7
75 – 51	3.5 – 5.5
50 – 26	5.0 – 8.5
25 – 0	8.5+

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	Festuca arizonica	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
Mountain Muhly	Muhlenbergia montana	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	Poa fendleriana	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
Prairie Junegrass	Koeleria macrantha	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
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	D	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
Arizona Fescue	Festuca arizonica	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
Mountain Muhly	Muhlenbergia montana	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	Poa fendleriana	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
Prairie Junegrass	Koeleria macrantha	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
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	D	P	P	P	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
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
Mountain Muhly	<i>Muhlenbergia montana</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
Prairies Junegrass	<i>Koeleria macrantha</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Bottlebrush Squirreltail	<i>Elymus elymoides</i>	EP	U	U	D	D	D	U	U	U	D	D	D	U
Western Wheatgrass	<i>Pascopyrum smithii</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Little Bluestem	<i>Schizachyrium scoparium</i>	EP	D	D	D	D	D	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
Most 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
Oak	<i>Quercus spp.</i>	L/S	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, 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:

Barella	Midnight
Slash	Smilo

Other Soils included are:

Adobe	
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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	05/20/02	George Chavez	2/12/03