

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R039XB012NM

Site Name: Pine Grassland

Precipitation or Climate Zone: 16 to 20 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on gently sloping to rolling topography usually associated with mountainous surroundings. Slopes average less than 10 percent but range to 15 percent and occasionally higher. Elevations vary widely, ranging from just over 6,000 to over 8,000 feet above sea level. More typically the site is found at 7,500 feet or just above.

Land Form:

1. Mountain slope

2.

3.

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	6,000	8,000
Slope (percent)	<10	>15
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 14 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 fall 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 temperature varies 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	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	1.02	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:**

Soils are typically moderately deep to deep. Surface textures range from sandy loam to clay loams. Soils may contain coarse fragments but are not skeletal. Underlying layers may be gravelly. The soils are well drained and have moderate permeability. Organic matter is moderate to high, and runoff is medium to slow. Available water-holding capacity is moderate to high.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Sandy loam
2. Clay loam
3.

Surface Texture Modifier:

1. Gravel
2.
3.

Subsurface Texture Group: Loamy

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

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

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

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>0.00</u>	<u>2.00</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>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 savannah like grassland typically overstoried by a thin stand of ponderosa pine. Occasionally, alligator juniper and oak also occur. Cool-season grasses such as Arizona fescue dominate the herbaceous community with a variety of forbs such as green sagewort, western wallflower, and Fremont goosefoot scattered uniformly. Tree canopy ranges from 5 to 20 percent and averages about 10 percent.

Canopy Cover:

Trees, shrubs and half-shrubs 5 to 20 %

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs 28

Bare ground 57

Surface cobble and stone 0

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	700	890	1,080
Forb	26	33	41
Tree/Shrub/Vine	158	200	243
Lichen			
Moss			
Microbiotic Crusts			
Total	875	1,113	1,350

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	167 – 278	167 – 278
2	MUMO MUPA2	Mountain Muhly New Mexico Muhly	167 – 223	167 – 223
3	BOGR2	Blue Grama	111 – 167	111 – 167
4	KOMA POFE	Prairie Junegrass Muttongrass	111 – 167	111 – 167
5	PASM BROMUS	Western Wheatgrass Brome spp.	33 – 56	33 – 56
6	SCSC	Little Bluestem	33 – 56	33 – 56
7	PIFI BLTR	Pinyon Ricegrass Pine Dropseed	11 – 56	11 – 56
8	ELEL5	Bottlebrush Squirreltail	33 – 56	33 – 56
9	LYPH	Wolftail	11 – 33	11 – 33
10	2GRAM	Other Grasses	33 – 56	33 - 56

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	2FP	Perennial Forbs	11 – 33	11 – 33
12	2FA	Annual Forbs	11 – 33	11 - 33

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	PIPO	Ponderosa Pine	56 – 167	56 – 167
14	RHTR	Skunkbush Sumac	11 – 33	11 – 33
15	QUERC	Oak spp.	11 – 33	11 – 33
16	JUNIP	Juniper spp.	11 – 33	11 – 33
17	2SD	Other Shrubs	11 – 33	11 - 33

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: threeawn spp., sheep fescue, sideoats grama, and muhlenbergia spp.
 Kentucky bluegrass may become naturalized to the site.
 Other woody species may include: fringed sagewort and pingue.

Plant Growth Curves

Growth Curve ID 1302NM

Growth Curve Name: HCPC

Growth Curve Description: Grassland with ponderosa pine overstory and scattered 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 supports a resident animal community that is characterized by elk, deer, gray fox, eastern cottontail, cliff chipmunk, thirteen-lined ground squirrel, Abert's squirrel, Botta's pocket gopher, white-throated woodrat, porcupine, red-tailed hawk, harlequin quail, mourning dove, screech owl, red-shafted flicker, Cassin's kingbird, Stellar's jay, chipping sparrow, tiger salamander, southern plateau fence lizard, short-horned lizard, New Mexico garter snake and prairie rattlesnake.

Merriam's turkey ranges into the site. Band-tailed pigeon may be present in years of high production of pinyon nuts or acorn mast. Purple martin nests and gray-headed junco winters on 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
Argiborolls	D

Recreational Uses:

The site offers recreation potential for camping, picnicking, hiking, horseback riding, nature observation and photography. Hunting opportunities include deer, turkey, bear and possible elk. Natural beauty is well reflected by the mountainous setting of the site.

Wood Products:

Some ponderosa pine may be cut from among the scattered trees found on the site. Very little other potential for wood products exists, with the possible exception of modest amounts of fuel wood.

Other Products:**Grazing:**

In some areas this site may be suited to spring, summer, or fall use only. However, continuous use in the same season, year after year, may result in a decline in condition. Continued heavy use will almost certainly result in a decline of cool-season grasses such as Arizona fescue being the first to decrease. Blue grama will increase under such a decline, as well as threeawns, annual forbs, and woody species, especially half-shrubs. Kentucky bluegrass may occur as a naturalized species. 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. Rest during late spring is especially needed for cool-season species such as Arizona fescue, prairie junegrass, muttongrass, and western wheatgrass. Seventy percent or more of the herbage produced on this site furnishes forage for grazing animals. 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	2.3 – 3.2
75 – 51	3.0 – 4.0
50 – 26	3.7 – 5.5
25 – 0	5.5+

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
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	D	P	P	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Pine Dropseed	Blepharoneuron tricholepis	EP	D	D	D	D	D	D	D	D	D	D	D	D
Pinyon Ricegrass	Piptochaetium fimbriatum	EP	P	P	P	P	P	P	P	P	P	P	P	P

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
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	D	P	P	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Pine Dropseed	Blepharoneuron tricholepis	EP	D	D	D	D	D	D	D	D	D	D	D	D
Pinyon Ricegrass	Piptochaetium fimbriatum	EP	P	P	P	P	P	P	P	P	P	P	P	P

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	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
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	D	P	P	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Pine Dropseed	Blepharoneuron tricholepis	EP	D	D	D	D	D	D	D	D	D	D	D	D
Pinyon Ricegrass	Piptochaetium fimbriatum	EP	P	P	P	P	P	P	P	P	P	P	P	P

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
Oak	Quercus spp.	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:

Argiborolls as mapped in Catron County

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