

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XA016NM

Site Name: Loamy Savannah

Precipitation or Climate Zone: 9 to 14 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site typically occurs on nearly level to undulating plains and mesa tops, although it may occur on more rolling landscapes. Slopes range from 1 to 15 percent but average about 5 percent. Elevation ranges from 6,400 to 7,200 feet above sea level.

Land Form:

1. Plain

2. Mesa

- 3.

Aspect:

1. N/A

- 2.

- 3.

	Minimum	Maximum
Elevation (feet)	6,400	7,200
Slope (percent)	1	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 moderately high.

CLIMATIC FEATURES

Narrative:

Mean annual precipitation varies from 9 to 14 inches. Deviations of 4 inches or more are quite common. Approximately 60 percent of the precipitation is received during the native plant growth period, April through September. During July, August and September 4 to 6 inches of precipitation influence the presence and production of warm-season plants. Fall and spring moisture is conducive to the growth of cool-season herbaceous plants. Maximum shrub growth also occurs during this time. Summer precipitation is characterized by brief, localized thunderstorms. Winter moisture usually occurs as snow or light rain.

Mean annual temperature varies from 64 degrees F in July to 21 degrees F in January. The maximum is near 100 degrees F. The minimum is near 40 degrees F. The average last killing frost in the spring is around mid-May. The first killing frost in the fall is late September or early October. The frost-free period is approximately 120 to 140 days, but freezing temperatures have been recorded for every month except July and August. Temperatures are generally conducive for herbaceous plant growth from April through September.

Wind velocities are relatively light most of the year with stronger winds occurring in spring and early summer. These stronger winds, which may exceed 25 miles per hour, increase transpiration rates of plants and rapidly dry the soil surface. Also, small soil particles are often displaced by the stronger winds, which can result in structural damage to native plants, particularly young seedlings.

Climate data was obtained from the WCCR web site. Using 50% probabilities for freeze-free and frost-free seasons at 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	104	119
Freeze-free period (days):	134	145
Mean annual precipitation (inches):	9	14

Monthly moisture (inches) and temperature (⁰F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.52	1.79	7.6	45.6
February	.43	1.56	10.7	50.4
March	.67	1.92	16.8	56.8
April	.52	1.26	22.7	66.0
May	.62	1.26	28.8	75.5
June	.49	1.21	35.1	85.8
July	1.54	3.41	42.1	88.9
August	1.86	3.72	41.8	85.8
September	1.08	1.86	34.6	78.8
October	1.01	1.86	25.3	68.8
November	.71	1.60	16.2	56.0
December	.56	1.49	9.3	47.0

Climate Stations:

		Period					
Station ID	<u>292241</u>	Location	<u>Cuba, NM</u>	From:	<u>01/01/14</u>	To:	<u>12/31/01</u>
Station ID	<u>293422</u>	Location	<u>Gallup FAA AP, NM</u>	From:	<u>01/01/21</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:**

Soils are generally moderately deep to deep but are occasionally shallow. Surface textures range from very fine sandy loam to clay loam. Subsoils range from loams to clays. Permeability is moderate to slow with available water-holding capacity moderate to high. Depending on slope and cover, runoff is low to moderately rapid.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed - calcareous

Surface Texture:

1. Very fine sandy loam
2. Clay loam
1.

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Loamy

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>Unknown</u>	<u>Unknown</u>
Permeability Class:	<u>Slow</u>	<u>Moderate</u>
Depth (inches):	<u>20</u>	<u>60</u>
Electrical Conductivity (mmhos/cm):	<u>Unknown</u>	<u>Unknown</u>
Sodium Absorption Ratio:	<u>Unknown</u>	<u>Unknown</u>
Soil Reaction (1:1 Water):	<u>Unknown</u>	<u>Unknown</u>
Soil Reaction (0.1M CaCl2):	<u>Unknown</u>	<u>Unknown</u>
Available Water Capacity (inches):	<u>6</u>	<u>12</u>
Calcium Carbonate Equivalent (percent):	<u>Unknown</u>	<u>Unknown</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

The tree overstory is at equilibrium with the herbaceous understory at climax. It appears as a grassland site with a fairly evenly spaced stand of pinyon and/or juniper. Overstory canopy ranges from 10 to 25 percent. Shrubs are common on this site. Forbs are a minor component.

Canopy Cover:

Trees, shrubs and half-shrubs 10 – 25 %

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs 28

Bare ground 45

Surface gravel 5

Surface cobble and stone 2

Litter (percent) 20

Litter (average depth in cm.) 2

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	350	560	770
Forb	20	32	44
Tree/Shrub/Vine	100	160	220
Lichen			
Moss			
Microbiotic Crusts			
Total	500	800	1,100

Plant Community Composition and Group Annual Production: Plant species are grouped by annual production **not** by functional groups.

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	PASM	Western Wheatgrass	80 – 160	80 – 160
2	PLJA BOGR2	Galleta Blue Grama	56 – 96	56 – 96
3	KOMA POFE	Prairie Junegrass Muttongrass	40 – 80	40 – 80
4	MUWR SPAI	Spike Muhly Alkali Sacaton	24 – 56	24 – 56
5	ACHY HENE5 HECO26	Indian Ricegrass New Mexico Feathergrass Needleandthread	24 – 56	24 – 56
6	ELEL5	Bottlebrush Squirreltail	24 – 40	24 – 40
7	PIFI PIMI7 BLTR	Pinyon Ricegrass Littleseed Ricegrass Pine Dropseed	40 – 80	40 – 80
8	FEAR2 MUMO 2GRAM	Arizona Fescue Mountain Muhly Other Grasses	0 – 40	0 – 40

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
9	ARFR4 ERIOG ERIGE2 2FP	Fringed Sagewort Wildbuckwheat spp. Fleabane spp. Perennial Forbs	8 – 24	8 – 25
10	2FA	Annual Forbs	8 – 16	8 – 16

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	PIED JUMO JUSC2	Pinyon Pine Oneseed Juniper Rocky Mountain Juniper	24 – 64	24 – 64
12	KRLA2 ATCA2	Winterfat Fourwing Saltbush	24 – 64	24 – 64
13	ARTR2 ARTEM	Big Sagebrush Sagebrush spp. (low)	24 – 64	24 – 64
14	ERNAN5 TECA2	Rubber Rabbitbrush Spineless Horsebrush	8 – 24	8 – 24
15	2SD	Other Shrubs	8 – 24	8 – 24

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 include: wolftail, hairy grama, sideoats grama, dropseed spp., mat muhly, ring muhly, New Mexico muhly, alfileria, Indian paintbrush, threadleaf groundsel, pingue, skunkbush sumac, yucca spp., oak spp., and ponderosa pine.

Plant Growth Curves

Growth Curve ID 0016NM

Growth Curve Name: HCPC

Growth Curve Description: Grassland with an evenly spaced stand of pinyon and/or juniper and a minor forb component.

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:

No Data

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
No Data	

Recreational Uses:

This site is well adapted to hunting, horseback riding, and camping.

Wood Products:

This site is not a major source of wood products. However, selective harvesting can result in some wood products such as Christmas and landscape trees, fuel wood and fence posts.

Other Products:

Grazing:

Approximately 75 percent of the vegetation produced on this site are suitable for grazing or browsing by domestic livestock and wildlife. Grazing distribution is generally not a problem if adequate waterings are properly located. However, continuous grazing leads to a repetitive, selective grazing of the most desirable species, which reduces their vigor and productivity. The result is a deterioration of the potential plant community. This deterioration is indicated by a decrease in western wheatgrass, muttongrass, prairie junegrass, spike muhly, winterfat and fourwing saltbush. Species that increase include blue grama, galleta, mat and ring muhly, rabbitbrush, big sagebrush and broom snakeweed. The pinyon and/or juniper may also increase to give the appearance of pinyon/juniper woodland with little herbaceous understory present.

This site is most stable against forces of erosion when the equilibrium between the grasses and trees is maintained. A planned grazing system, which prevents the repetitive grazing of selected species and allows for periodic replenishment of carbohydrates in the roots, is desirable.

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

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	1.5 – 2.0
75 – 51	1.9 – 3.0
50 – 26	2.9 – 6.1
25 – 0	6.1+

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
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	D	D	D	D	D	D	D	D	D	D	D	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
Indian Ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
New Mexico Feathergrass	<i>Hesperostipa neomexicana</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Needleandthread	<i>Hesperostipa comata</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Pinyon Ricegrass	<i>Piptochaetium fimbriatum</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Pine Dropseed	<i>Blepharoneuron tricholepis</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
Fourwing Saltbush	<i>Atriplex canescens</i>	L/S	P	P	P	P	P	D	D	D	D	D	D	P
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

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, 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 New Mexico and Arizona Plateaus and Mesas 36 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: McKinley & Sandoval

Characteristic Soils Are: _____

Other Soils included are: _____

Site Description Approval:

{PRIVATE}Author	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester		Don Sylvester	

Site Description Revision:

{PRIVATE}Author	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	08/16/02	George Chavez	09/11/02