UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R037XA001NM

Site Name: Loamy

Precipitation or Climate Zone: 7 to 10 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site is relatively level to gently sloping with an occasional swale. It usually occurs on mesas, plateaus, and upland valleys. Slopes range from 1 to 8 percent. Elevations range from 500 to 7,000 feet above sea level.

Land Form:

1. Mesas
2. Plateaus
3. Upland valley

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	500	7,000
Slope (percent)	1	8
Water Table Depth (inches)	N/A	N/A

Flooding:	Minimum	Maximum
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	Minimum	Maximum
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

This site has an arid, mild, dry climate with distinct seasonal temperature variations and large annual and diurnal temperature changes.

Mean annual precipitation varies from 7 to 10 inches. Deviations of 4 inches or more are quite common. Distribution is 65 percent during the native plant growth period, which is from April through September. May and June are the dry months. During July, August, and September 3.5 inches of precipitation influences the presence and production of warm-season plants. Late fall and winter moisture is conducive to the production of cool-season plants, which usually begin growth in March and end with plant maturity and seed dissemination. This usually takes place in the early part of June when the moisture deficiency and warmer temperatures occur. The Gulf of Mexico is the principal source of moisture for summer precipitation, which is characterized by brief afternoon thundershowers. Winter moisture occurs as light rain or snow.

Temperatures vary from a monthly mean of 75 degrees F in July to 27 degrees F in January. From a maximum of 106 degrees F to a minimum of 35 degrees below zero. The average last killing frost in the spring is May 8, and the first killing frost in the fall is October 10. The frost-free season is approximately 160 days. Temperatures are conducive for native grass and forb growth from April through September. Maximum shrub growth occurs in the spring months.

The wind blows most frequently from an easterly direction, however, a majority of the stronger winds (10 – 25 miles per hour) are from a westerly quadrant. Spring is the windiest season. Average hourly wind velocities are near 6 miles per hour. Spring and summer winds increase transpiration rate of native plants and rapidly dry the surface soil. Small soil particles are often displaced by the wind near the soil surface and often results in structural damage to native plants, especially young seedlings.

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):	114	151
Freeze-free period (days):	143	177
Mean annual precipitation (inches):	7	10

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.46	.70	12.7	43.1
February	.46	.74	18.4	50.8
March	.54	.70	22.7	60.4
April	.42	.56	29.3	70.0
May	.38	.62	37.6	79.5
June	.29	.68	46.6	90.0
July	.68	1.46	54.8	94.6
August	.79	1.83	53.1	91.8
September	.80	1.13	44.3	85.6
October	.78	1.30	31.7	72.4
November	.52	.68	20.9	56.3
December	.54	.64	12.8	46.6

Climate Stations:

				Period		
Station ID	291647	Location	Chaco Canyon Natl. Monument, NM	From: 06/01/22	To:	12/31/01
Station ID	293134	Location	Farmington 3NE, NM	From: 1971	To:	2000
Station ID	293340	Location	Fruitland 2E, NM	From: 01/01/14	To:	12/31/01
Station ID	296465	Location	Otis, NM	From: 02/01/14	To:	12/31/01
Station ID	298284	Location	Shiprock, NM	From: 08/01/26	To:	12/31/01

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 in this ecological site are moderately deep to deep and well drained. The surface layer is a brown fine sandy loam or loam about 6 inches thick. The subsoil, substratum, or underlying layer is medium or moderately fine textured, ranging from 20 to 54 inches thick.

These soils formed in alluvial and eolian material derived from sandstone and shale. Water intake rate is medium to moderately rapid. Available water rate is medium to moderately rapid. Available water-holding capacity ranges from 3.12 to 11.2 inches for a 5-foot profile.

Parent Material Kind: Alluvial and eolian
Parent Material Origin: Sandstone and shale

Surface Texture:

1. Very fine sandy loam
2. Loam
3. Fine sandy loam 4. Sandy clay loam

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

	Minimum	**Maximum**
Drainage Class:	Somewhat poorly	Well
Permeability Class:	Slow	Moderately rapid
Depth (inches):	60	>80
Electrical Conductivity (mmhos/cm):	0.00	8.00
Sodium Absorption Ratio:	0.00	13.00
Soil Reaction (1:1 Water):	6.1	9.0
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	3	12
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
The aspect of vegetation on this site is dominantly grassland characterized by short and mid-grasses. Shrubs and perennial forbs are a minor component of the plant community. Big sagebrush will occur in higher concentrations on the upper slopes of the site, often as an understory to invading juniper trees. Annual forbs occur in relative abundance during the spring months in years of above average growth conditions.

Canopy Cover:	
Trees and shrubs	5 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	20
Bare ground	65
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	10
Litter (average depth in cm.)	1

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	210	350	560
Forb	45	83	120
Tree/Shrub/Vine	45	83	120
Lichen			
Moss			
Microbiotic Crusts			
Total	300	550	800

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	PLJA	Galleta	55 – 83	55 – 83
2	ACHY	Indian Ricegrass	55 – 110	55 – 110
3	HECO26 HENE5	Needleandthread New Mexico Feathergrass	28 – 55	28 – 55
4	PASM	Western Wheatgrass	17 – 28	17 – 28
5	ELEL5	Bottlebrush Squirreltail	28 – 55	28 – 55
6	BOGR2	Blue Grama	55 – 110	55 – 110
7	SPCR	Sand Dropseed	28 – 55	28 – 55
8	BOCU	Sideoats Grama	11 – 38	11 – 28
9	ARIST	Threeawn spp.	17 – 28	17 – 28
10	SPAI	Alkali Sacaton	17 – 44	17 – 44

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	SPCO SEFLF	Scarlet Globemallow Threadleaf Groundsel	17 – 28	17 – 28
12	PLPA2 ERIGE2	Wooly Indianwheat Fleabane spp.	17 – 28	17 – 28
13	OXYTR ASCLE ASTER PENST AMPS	Locoweed spp. Milkweed spp. Aster spp. Penstemon spp. Western Ragweed	17 – 28	17 - 28

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	ARTR2	Big Sagebrush	28 – 83	28 - 83
15	ATCA2	Fourwing Saltbush	28 – 55	28 – 55
16	EPCU KRLA2	Cutler's Mormon-tea Winterfat	17 – 28	17 – 28
17	CHVI8 LYPA TACA2 GUSA2	Douglas Rabbitbrush Pale Wolfberry Spiney Horsebrush Broom Snakeweed	17 – 28	17 - 28

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

Additional plants which usually grow on this site in varying amounts dependent on current growing season conditions, are: foxtail barley, sixweeks fescue, sixweeks grama, annual brome, silverleaf nightshade, ring muhly, fiddleneck, tansymustard, and yerba-de-pasmo.

Plant Growth Curves

Growth Curve ID **0901NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Mixed short/mid-grasses with shrubs and forbs as a minor component.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	10	25	30	10	3	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This ecological site provides habitats which support a resident animal community that is characterized by pronghorn antelope, coyote, black-tailed jackrabbit, white-tailed prairie dog, silky pocket mouse, sparrow hawk, raven, horned lark, mourning dove, great basin spadefoot toad, side-blotched lizard, and gopher snake.

The burrowing owl, loggerhead shrike, and mockingbird are summer residents of these sites. Woody plants are used for nesting by vesper, sage and brewers sparrows.

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**
Blancot	B
Doak	B
Doakum	B
El Rancho	B
Florita	B
Fruitland	B
Las Lucas	B
Tapicito	B
Werlog	C

Recreational Uses:

No data.

Wood Products:

No data.

Other Products:

Grazing:

This site is well suited for grazing use by cattle, sheep, horses, antelope, burros, and small herbivorous animals.

Under the pressure of uncontrolled grazing, the potential plant community deteriorates. There is a marked increase in amounts of shrubs and forbs; shrubs dominate the site.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	5.0 – 9.0
75 – 51	7.0 – 14.0
50 – 26	9.0 – 18.0
25 – 0	14.0 – 26.0

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
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	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
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	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
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Alkali Sacaton	Sporobolus airoides	EP	U	U	U	U	U	D	D	D	U	U	U	U
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	D	D	D	D	D	D	P
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Sand Dropseed	Sporobolus cryptandrus	EP	U	U	D	D	D	U	U	U	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: **San Juan**

Latitude: _____

Longitude: _____

Township: **32 N**

Range: **13 W**

Section: **26**

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: **A typical pedon of Doak loam in San Juan County, New Mexico, near La Plata on a mesa top, 2,475 feet west, 825 feet south of the northeast corner of section 26, T. 32 N., R. 13 W.**

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the San Juan River Valley, Mesas and Plateaus 37 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: San Juan, McKinley,

Characteristic Soils Are:	
Azfield, Blancot, Doak, Saddle	
Other Soils included are:	
Doakum, El Rancho, Florita, Fruitland	Las Lucas, Tapicito, Werlog

Site Description Approval:

Author	**Date**	**Approval**	**Date**
Don Sylvester	03/06/79	Don Sylvester	03/06/79

Site Description Revision:

Author	**Date**	**Approval**	**Date**
Elizabeth Wright	07/08/02	George Chavez	2/12/03