

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XA004NM

Site Name: Bottomland

Precipitation or Climate Zone: 14 to 16 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site is on nearly level to gently sloping floodplains. Elevation ranges from of 5,000 to 7,500 feet above sea level. It is subject to flooding one or more times in most years.

Slopes are convex or concave and usually range from 0 to 3 percent but may be as steep as 5 percent.

Land Form:

1. Floodplain

2.

3.

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	5,000	7,500
Slope (percent)	0	5
Water Table Depth (inches)	N/A	N/A
	Minimum	Maximum
Flooding:		
Frequency	Rare	Rare
Duration	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:

The climate of this area can be classified as “semi-arid continental”.

Precipitation averages 14 to 16 inches. Seventy seven percent of the year’s moisture normally falls during the period of May through October. Practically all of it is brought by brief afternoon and evening thunderstorms. In July and August, normally the wettest months of the year, one can expect about one day in five when rainfall exceeds one-tenth inch. Early spring precipitation in May benefits the cool-season plants. Winter precipitation, supplying 24 percent of the year’s moisture, normally has no more than two days a month with as much as one-tenth inch of moisture. Much of the winter precipitation falls as snow.

Air temperatures vary from a monthly mean of 20 degrees F in January to 69 degrees F in July. Daily high temperatures average in the 80’s and low 90’s during the summer. Winter low temperatures fall below the freezing mark much of the time from November through March with minimum temperatures approaching 25 degrees F below zero. Dates of the last killing frost may vary from May 9th through May 17th, and the first killing frost from September 27th to October 8th. The frost-free season ranges from 141 days to 153 days from early May to early October.

Wind velocities for the area average 10 to 12 miles per hour and prevail from the south and southwest. Generally, March is the windiest month. Strong winds during the spring cause rapid drying of the soil surface.

Nearby mountains to the west intercept much of the precipitation from the Pacific storms coming through this area during the winter. About 70 percent of the 14 to 16 inches of annual precipitation falls in the form of rainfall during the frost-free season. About 40 percent of the annual precipitation benefits cool-season plants, 50 percent benefits warm-season plants and 10 percent falls during the season of plant dormancy. Relative humidity is moderately low. The sun shines approximately 75 percent of the time.

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):	<u>132</u>	<u>149</u>
Freeze-free period (days):	<u>153</u>	<u>171</u>
Mean annual precipitation (inches):	<u>14</u>	<u>16</u>

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

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.27	.40	10.4	48.2
February	.26	.43	14.1	52.7
March	.56	.78	20.4	59.6
April	.85	1.20	28.7	67.9
May	1.68	2.49	38.3	76.4
June	1.77	2.21	46.3	85.7
July	2.53	3.43	50.9	88.8
August	2.95	3.57	50.6	86.6
September	1.56	2.02	42.9	80.7
October	1.02	1.20	31.4	71.4
November	.44	.59	19.9	57.6
December	.25	.51	12.3	50.5

Climate Stations:

Station ID	Location	From:	To:	Period
293706	Grenville, NM	01/01/41	12/31/01	
294856	Las Vegas FAA Airport, NM	01/01/41	12/31/01	
295490	Maxwell, NM	01/01/14	12/31/01	
297280	Raton KRTN Radio, NM	12/01/78	12/31/01	
298501	Springer, NM	01/01/14	12/31/01	
299330	Valmora, NM	03/01/17	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:

These are moderately well drained and well drained deep soils. Surface texture is loamy sand, sandy loam, loam, silt loam, silty clay loam or clay loam. The texture of the subsurface horizons range from highly stratified sands, sands and gravel, sands and medium textured soil to clay. Permeability is rapid to slow. Available water-holding capacity is moderate to high. Effective rooting depth is generally more than 60 inches. Air-water relationship is favorable for plant growth.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Loamy sand
2. Sandy loam
3. Loam
4. Silt loam
5. Silty clay loam
6. Clay loam

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Sandy

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:	Moderately Well	Well
Permeability Class:	Impermeable	Rapid
Depth (inches):	60	>72
Electrical Conductivity (mmhos/cm):	2.00	8.00
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	7.9	9.0
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	6	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

Grasses dominate this site. Mid-grasses such as western wheatgrass, alkali sacaton and sideoats grama are dominant with a variety of short grasses. Forbs and shrubs are only a minor portion of the plant community. This site occurs in elongated drainages that transport surface runoff from adjoining upland sites and swales. Because of the extra water received by this site, the grass is denser, stands higher and is one of the most productive sites in the resource area.

Canopy Cover:

Trees	0
Shrubs and half shrubs	1 – 5 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	40 – 45
Bare ground	35 – 40
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	15 – 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	880	2,200	3,520
Forb	80	200	320
Tree/Shrub/Vine	30	75	120
Lichen			
Moss			
Microbiotic Crusts			
Total	1,000	2,500	4,000

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	SPAI	Alkali Sacaton	625 – 750	625 – 750
2	PASM	Western Wheatgrass	500 – 625	500 – 625
3	PAOB	Vine-mesquite	500 – 625	500 – 625
4	BOGR2	Blue Grama	375 – 500	375 – 500
5	PLJA	Galleta	250 – 375	250 – 375
6	BOCU	Sideoats Grama	250 – 375	250 – 375
7	BOSA	Silver Bluestem	25 – 125	25 – 125
8	BOBA3	Cane Bluestem	25 – 125	25 – 125
9	DISP	Desert Saltgrass	25 – 125	25 – 125
10	ELCA4	Canadian Wildrye	25 – 125	25 – 125
11	2GRAM	Other Grasses	25 – 125	25 – 125

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	SPHAE	Globemallow spp.	25 – 125	25 – 125
13	AMPS RACO3	Western Ragweed Upright Prairie Coneflower	25 – 125	25 – 125
14	2FP	Other Perennial Forbs	25 – 125	25 – 125
15	2FA	Other Annual Forbs	25 – 125	25 – 125

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
16	ATCA2 FAPA	Fourwing Saltbush Apacheplume	0 – 125	0 – 125
17	2SD	Other Shrubs	25 – 125	25 – 125

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 that could appear include: mat muhly, sand muhly, Hall’s panicum and threeawn spp.

Other shrubs that could appear include: plains pricklypear cactus.

Other forbs that could appear include: verbena, thistle spp., silverleaf nightshade and prairie clover.

Plant Growth Curves

Growth Curve ID 3704NM

Growth Curve Name: HCPC

Growth Curve Description: Grassland with minor components of forbs and shrubs.

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, black-tailed jackrabbit, plains pocket gopher, marsh hawk, horned lark, magpie, western racer and great plains skunk.

The pronghorn antelope and mule deer will make seasonal use of these habitats. Red-wing blackbirds breed in these habitats.

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
La Brier	C
Manzano	C
Vermejo	D

Recreational Uses:

This site provides poor camping, hiking and picnicking. Hunting is fair for rabbits. It provides limited use as big game winter range. The site is closely associated with breaks in the physiographic features of the landscape. Provides some use by antelope if site is associated with open grassland.

Wood Products:

This site has no significant value for wood products.

Other Products:

Grazing:

This site can be grazed any season of the year by all classes and kinds of livestock. Because of the forage produced by alkali sacaton, cattle and horses may best be suited. Continuous grazing during the growing season will cause the more desirable forage plants such as western wheatgrass, vine-mesquite, sideoats grama, Canadian wildrye and fourwing saltbush to decrease. Species most likely to invade this site are buffalograss, ring muhly, cholla cactus, plains pricklypear cactus and rubber rabbitbrush. Species most likely to increase are blue grama, galleta, alkali sacaton and desert saltgrass. As the ecological condition deteriorates, it is accompanied by a loss of vegetative cover causing channeling of the water, and the productivity is greatly reduced. The plant community may be dominated either by blue grama/galleta or alkali sacaton/galleta as deterioration advances. Where alkali sacaton dominates the site, livestock should be concentrated into small pastures to fully utilize the forage. Livestock should be rotated in the summer or pasture should be rested in alternate years. A system of deferred grazing, which varies the time of grazing and rest in a pasture during successive years, is needed to maintain or improve the plant community. Spring deferment is beneficial to western wheatgrass and allows alkali sacaton sufficient time to green up.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	0.8 – 1.0
75 – 51	0.9 – 1.4
50 – 26	1.3 – 4.6
25 – 0	4.6+

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
Sideoats Grama	<i>Bouteloua curtipendula</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	<i>Pascopyrum smithii</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D

Animal Kind: Livestock
Animal Type: Horse

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Blue Grama	<i>Bouteloua gracilis</i>	EP	D	D	D	D	P	P	P	P	P	D	D	D
Sideoats Grama	<i>Bouteloua curtipendula</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	<i>Pascopyrum smithii</i>	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
Sideoats Grama	<i>Bouteloua curtipendula</i>	EP	D	D	D	D	P	P	P	P	P	D	D	D

Animal Kind: Wildlife
Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Globemallow	<i>Sphaeralcea</i> spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U

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
Fourwing Saltbush	<i>Atriplex canescens</i>	L/S	P	P	D	D	D	D	D	D	D	D	D	P

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: Colfax, Mora, San Miguel

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 Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Colfax, Mora, San Miguel, Union.

Characteristic Soils Are:

La Brier	Manzano
Vermejo	

Other Soils included are:

--

Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	04/25/80	Durwood E. Ball	04/29/80

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	08/20/02	George Chavez	12/17/02