

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

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R077BY029NM

Site Name: Draw

Precipitation or Climate Zone: 15 to 19 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs in the narrow elongated drainages that transport surface runoff from the adjacent upland sites to the bottomland. Because this site receives additional water, the plant community produces a greater amount than the adjoining sites. Slopes generally range from 0 to 3 percent but may range up to 5 percent. The direction of slope varies and is not significant. Elevation ranges from 4,300 to 5,300 feet above sea level.

Land Form:

1. Drainageway
- 2.

Aspect:

1. N/A
- 2.
- 3.

	Minimum	Maximum
Elevation (feet)	4,300	5,300
Slope (percent)	0	5
Water Table Depth (inches)	54	>72
	Minimum	Maximum
Flooding:		
Frequency	Rare	Occasional
Duration	Very 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”.

Annual average precipitation ranges from 15 to 19 inches. Seventy percent of the moisture usually falls during the six-month period May through October. Most of this summer precipitation falls in the form of brief and heavy afternoon and evening thunderstorms. Hail may accompany the more severe summer storms. Spring precipitation (March, April, May) accounts for approximately 25 percent of the annual precipitation. Most of this comes as light rain showers. Winter moisture may occur as either rain or snow and usually averages less than ½ inch per month.

Temperatures are characterized by distinct seasonal change and large annual and diurnal temperature ranges. Summers are moderately warm; maximum temperatures average above 90 degrees F in July and August. Temperatures usually fall rapidly after sundown and range in the low 60’s on most summer nights. Winters are mild, sunny and dry. Daytime shade temperatures in mid-winter usually rise to the 50’s. However, freezing temperatures normally occur at night from mid-November to mid-March.

The frost-free season ranges from 181 to 199 days. Dates of the last freeze vary from April 10th to April 23rd and the first freeze varies from October 18th to October 26th.

Wind velocities in this area are high and average about 5.3 miles per hour on an annual basis. The spring months are characterized by frequent windstorms with velocities in excess of 45 miles per hour, which cause excessive erosion on soils not protected by a good ground cover of vegetation. Humidity is low and evaporation is high.

Both temperature and rainfall distribution favor production of warm-season, perennial plants in this area. However, sufficient late winter and early spring moisture allows cool-season species to occupy an important component within most plant communities.

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):	<u>175</u>	<u>183</u>
Freeze-free period (days):	<u>191</u>	<u>202</u>
Mean annual precipitation (inches):	<u>15</u>	<u>19</u>

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

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.43	.50	21.8	52.8
February	.43	.66	25.0	57.7
March	.68	.80	30.0	64.7
April	.90	1.05	38.1	73.4
May	2.01	2.35	47.3	81.8
June	2.13	2.67	56.1	90.9
July	2.80	3.25	60.6	93.4
August	2.80	3.05	59.4	91.2
September	1.66	2.17	52.4	85.1
October	1.29	1.37	41.5	75.0
November	.59	.72	30.3	62.5
December	.49	.65	22.1	53.5

Climate Stations:

Station ID	Location	From:	To:
291332	Cameron, NM	01/01/48	05/31/98
295516	McCarty Ranch, NM	11/01/83	12/31/01
297226	Ragland 3SSW, NM	02/01/35	12/31/01
297867	San Jon, NM	01/01/14	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 soils are deep, moderately and well drained. Surface textures are fine sandy loam, loam, silty clay loam, clay loam or clay. The subsurface textures are loam, clay loam, silty clay loam, or clay. Permeability is moderately slow to slow. The available water-holding capacity is high. Rooting depth is from 30 to 60 inches or more. The soil-water-plant relationship is favorable for plant growth.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

- | |
|--------------------|
| 1. Clay loam |
| 2. Loam |
| 3. Fine sandy loam |
| 4. Silty clay loam |
| 5. Clay |

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:	Somewhat poorly	Well
Permeability Class:	Impermeable	Moderately slow
Depth (inches):	8	>72
Electrical Conductivity (mmhos/cm):	0.00	16.00
Sodium Absorption Ratio:	0.00	4.00
Soil Reaction (1:1 Water):	6.6	9.0
Soil Reaction (0.1M CaCl₂):	N/A	N/A
Available Water Capacity (inches):	9	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

This site is a mixed mid-grass plant community with an occasional shrub. Warm-season mid-grasses and short grasses dominate the site. However, cool-season grasses and forbs are an important component and can make up 25 to 30 percent of the plant community. Woody species are a minor component of the plant community. This site occurs in the narrow elongated drainages that transport surface runoff from the adjacent upland sites to the bottomland. Because this site receives additional water, the plant community produces a greater amount than the adjoining sites.

Canopy Cover:

Trees	0
Shrubs and half shrubs	5 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	45
Bare ground	20
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	30
Litter (average depth in cm.)	5

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	1,275	2,125	2,975
Forb	150	250	350
Tree/Shrub/Vine	75	125	175
Lichen			
Moss			
Microbiotic Crusts			
Total	1,500	2,500	3,500

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	500 – 625	500 – 625
2	BOGR2	Blue Grama	250 – 375	250 – 375
3	BOCU	Sideoats Grama	200 – 250	200 – 250
4	PAOB	Vine-mesquite	125 – 200	125 – 200
5	PLJA	Galleta	75 – 125	75 – 125
6	PAVI2	Switchgrass	75 – 125	75 – 125
7	ELEL5	Bottlebrush Squirreltail	75 – 125	75 – 125
8	SEVU2 PAHA	Plains Bristlegrass Hall’s Panicum	75 – 125	75 – 125
9	SCSC BOSA	Little Bluestem Silver Bluestem	75 – 125	75 – 125
10	SPAI SPCR 2GRAM	Alkali Sacaton Sand Dropseed Other Grasses	75 – 125	75 – 125
11	MURI BUDA	Mat Muhly Buffalograss	0 – 75	0 – 75

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	RACO3 DALEA HEAN3 ERAN4 SPHAE	Prairie Coneflower Prairie Clover Annual Sunflower Annual Buckwheat Globemallow spp.	75 – 125	75 – 125
13	AMPS CINE	Western Ragweed New Mexico Thistle	T – 75	T – 75
14	2FA	Other Annual Forbs	75 – 125	75 – 125
15	2FP	Other Perennial Forbs	75 – 125	75 – 125

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
16	ARFI2 KRLA2 RHTR GUSA2 SENEC	Sand Sagebrush Winterfat Skunkbush Sumac Broom Snakeweed Groundsel spp.	T – 125	T – 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

Plant Growth Curves

Growth Curve ID 5204NM

Growth Curve Name: HCPC

Growth Curve Description: Mixed mid-grass grassland with an occasional shrub. Cool-season grasses and forbs are a major 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

<u>Soil Series</u>	<u>Hydrologic Group</u>
Bippus	B
Church	D
Lofton	B, D
Manwood	D
Spur	B
Toyah	C

Recreational Uses:

This site provides limited recreation potential due to the lack of live water and shade. This site provides poor camping, hiking and picnicking. Hunting for antelope and rabbits is good, and hunting for upland game birds is fair to good. The natural beauty of this site is enhanced by the variety of plants that bloom from early spring to early fall.

Wood Products:

This site produces no wood products.

Other Products:

Grazing:

This site can be grazed any season of the year by all classes and kinds of livestock. Approximately 95 percent of the annual yield are from species that furnish forage for livestock. The variety of species produced by this site provides a well-balanced feed and good nutrition for grazing animals during most seasons of the year. Continuous yearlong grazing or grazing continually during the period from April through October will result in a plant community of low-forage value such as galleta or tobosa, buffalograss, blue grama and broom snakeweed. Blue grama will form a low dense turf. Sufficient ground cover and herbage production needs to be maintained or the site will gully and the productions of the site will be greatly reduced. Sand sagebrush will increase in many areas as plant community deteriorates. A system of deferred grazing, which varies the season of grazing and rest during successive years, is needed to maintain or to improve the plant community. Fall and winter rest will benefit winterfat. Spring rest will benefit western wheatgrass and bottlebrush squirreltail. Summer rest will benefit vine-mesquite, blue grama and sideoats grama.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	1.3 – 3.5
75 – 51	2.4 – 5.0
50 – 26	3.3 – 10.0
25 – 0	10.0+

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
Plains Bristlegrass	Setaria vulpiseta	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
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	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
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Switchgrass	Panicum virgatum	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
Hall's Panicum	Panicum hallii	EP	D	D	D	D	P	P	P	P	D	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Annual Sunflower	Helianthus annuum	EP	U	U	U	U	U	D	D	D	U	U	U	U
Globemallow	Sphaeralcea spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U

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
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Plains Bristlegrass	Setaria vulpiseta	EP	D	D	D	D	P	P	P	P	P	D	D	D
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Switchgrass	Panicum virgatum	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

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	D	D	D	D
Vine-mesquite	<i>Panicum obtusum</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Western Wheatgrass	<i>Pascopyrum smithii</i>	EP	U	U	D	D	D	D	D	D	D	D	D	U
Plains Bristlegrass	<i>Setaria vulpiseta</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Prairie Coneflower	<i>Ratibida columnifera</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
Prairie Clover	<i>Dalea spp.</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
Globemallow	<i>Sphaeralcea spp.</i>	EP	U	U	D	D	D	D	D	D	U	U	U	U

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
Annual Sunflower	<i>Helianthus annuum</i>	EP	U	U	U	U	U	D	D	D	U	U	U	U
Prairie Coneflower	<i>Ratibida columnifera</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
Prairie Clover	<i>Dalea spp.</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
Globemallow	<i>Sphaeralcea spp.</i>	EP	U	U	D	D	D	D	D	D	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: Curry, Quay

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 Southern High Plains 77 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Curry, Harding & Quay

Characteristic Soils Are:

Bippus	Church
Lofton	Manwood
Spur	Toyah
Other Soils included are:	

Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	07/26/78	Don Sylvester	07/26/78

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	09/10/02	George Chavez	09/12/02