

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

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R077BY058NM

**Site Name:** Saline (CP-2, HP-2, HP-3)

**Precipitation or Climate Zone:** 13 to 16 inches

**Phase:** \_\_\_\_\_

## PHYSIOGRAPHIC FEATURES

### **Narrative:**

This site is on slightly depressional to gently sloping broad flood plains, between the natural channel and the more steeply sloping parts of the adjacent alluvial fans. Elevation ranges from 3,000 to 6,000 feet above sea level. Slopes range from 0 to 5 percent but are usually less than 3 percent.

### **Land Form:**

1. Depression
2. Flood plain
- 3.

### **Aspect:**

1. N/A
- 2.
- 3.

	<b>Minimum</b>	<b>Maximum</b>
Elevation (feet)	3,000	6,000
Slope (percent)	0	5
Water Table Depth (inches)	27	>72
	<b>Minimum</b>	<b>Maximum</b>
<b>Flooding:</b>		
Frequency	Rare	Occasional
Duration	Brief	Brief
	<b>Minimum</b>	<b>Maximum</b>
<b>Ponding:</b>		
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 13 to 16 inches. About seventy eight percent of the moisture usually falls during the six-month period of 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. In the winter, there is normally only one day a month when as much as one-tenth inch of moisture falls, usually in the form of snow. Snow seldom lies on the ground for more than a few days.

Temperatures are characterized by a distinct seasonal change and large annual and diurnal temperature ranges. Summers are moderately warm. Maximum temperature average above 90 degrees F from July to August and an average summer includes about 80 days with high readings exceeding 90 degrees F and 10 days with readings above 100 degrees F. Temperatures usually fall rapidly after sundown and low of 60 degrees F on most summer nights. Winters are mild, sunny and dry. Daytime shade temperatures in midwinter usually rise to the 50’s. However, freezing temperatures normally occur at night from mid-November to mid-March.

The freeze-free season ranges from 190 to 197 days. Dates of the last freeze are April 11<sup>th</sup> to April 17<sup>th</sup> and the first freeze varies from October 20<sup>th</sup> to October 25<sup>th</sup>.

Both temperature and rainfall distribution favor warm-season, perennial plant communities in the area. However, sufficient late winter and early spring moisture allows a cool-season species to occupy a minor component within the plant community

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.

	<b>Minimum</b>	<b>Maximum</b>
<b>Frost-free period (days):</b>	164	196
<b>Freeze-free period (days):</b>	190	218
<b>Mean annual precipitation (inches):</b>	13	16

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

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.23	0.46	21.6	57.3
February	0.30	0.44	24.0	59.2
March	0.46	0.65	29.1	68.0
April	0.36	0.92	36.3	78.3
May	0.42	1.68	45.7	82.6
June	1.20	1.86	52.2	91.2
July	2.03	2.73	59.1	92.9
August	2.09	2.75	58.1	91.0
September	1.65	1.92	51.1	84.8
October	1.23	1.93	40.1	74.7
November	0.46	0.88	28.9	63.0
December	0.37	0.62	22.1	54.6

**Climate Stations:**

Station ID	Location	From:	Period	To:
290205	Alamogordo Dam, NM	1972		2000
293292	Fort Sumner, NM	01/01/14		2000
297254	Ramon 8SW, NM	03/04/57		122/31/01
298596	Sumner Lake, NM	01/01/21		12/31/01
299851	Yeso, NM	01/01/48		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 and well drained. The surface texture is silty clay loam, clay loam or clay. They are moderately alkaline and moderately to strongly saline. Permeability is very slow. The available water-holding capacity is high. Effective rooting depth is 60 inches or more. Air-water relationship is favorable for plant growth in favorable years.

**Parent Material Kind:** Marine deposits

**Parent Material Origin:** Gypsum

### **Surface Texture:**

1. Clay loam
2. Clay
3. Silty clay loam

### **Surface Texture Modifier:**

1. N/A
2.
3.

**Subsurface Texture Group:** Clayey

**Surface Fragments <=3" (% Cover):** N/A

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

**Subsurface Fragments <=3" (%Volume):** N/A

**Subsurface Fragments >=3" (%Volume):** N/A

	<b>Minimum</b>	<b>Maximum</b>
<b>Drainage Class:</b>	Somewhat poorly	Well
<b>Permeability Class:</b>	Impermeable	Very slow
<b>Depth (inches):</b>	60	>72
<b>Electrical Conductivity (mmhos/cm):</b>	0.00	16.00
<b>Sodium Absorption Ratio:</b>	0.00	30.00
<b>Soil Reaction (1:1 Water):</b>	6.6	9.0
<b>Soil Reaction (0.1M CaCl<sub>2</sub>):</b>	N/A	N/A
<b>Available Water Capacity (inches):</b>	9	12
<b>Calcium Carbonate Equivalent (percent):</b>	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 grassland dominated by warm-season mid-grasses with an occasional shrub.

Vegetation on this site is tolerant to saline or alkaline soil conditions. Forbs, shrubs and cool-season grasses make up a minor portion of the plant community.

Canopy Cover:

Trees	0
Shrubs and half shrubs	5 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	25
Bare ground	40
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	30
Litter (average depth in cm.)	3

**Plant Community Annual Production (by plant type):** \_\_\_\_\_

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	510	1,105	1,700
Forb	60	130	200
Tree/Shrub/Vine	30	65	100
Lichen			
Moss			
Microbiotic Crusts			
<b>Total</b>	600	1,300	2,000

**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	390 – 455	390 – 455
2	PLJA PLMU3	Galleta Tobosa	130 – 169	130 – 169
3	BOGR2	Blue Grama	104 – 130	104 – 130
4	DISP	Desert Saltgrass (inland)	104 – 130	104 – 130
5	PAOB	Vine-mesquite	104 – 130	104 – 130
6	PAVI2	Switchgrass	39 – 65	39 – 65
7	PASM	Western Wheatgrass	39 – 65	39 – 65
8	BOSA	Silver Bluestem	39 – 65	39 – 65
9	MUAS MURI	Alkali Muhly Mat Muhly	13 – 39	13 – 39
10	ELEL5	Bottlebrush Squirreltail	0 – 26	0 – 26
11	CHLOR	Windmillgrass spp.	0 – 26	0 – 26
12	ARIST SCBR2	Threawn spp. Burrograss	0 – 26	0 – 26

**Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	CINE	New Mexico Thistle	0 – 26	0 – 26
14	LIPU	Dotted Gayfeather	0 – 26	0 – 26
15	ERIOG OXYRT	Buckwheat spp. Locoweed spp.	0 – 26	0 – 26
16	2FP	Other Perennial Forbs	26 – 52	26 – 52
17	2FA	Other Annual Forbs	26 – 52	26 – 52

**Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
18	ATCA2	Fourwing Saltbush	39 – 65	39 – 65
19	GUSA2	Broom Snakeweed	0 – 39	0 – 39

**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 4008NM

Growth Curve Name: HCPC

Growth Curve Description: Warm-season mid-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 desert cottontail, marsh hawk, roadrunner, scaled quail, ornate box turtle and great plains skunk.

There is seasonal use by pronghorn antelope.

### **Hydrology Functions:**

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

#### **Hydrologic Interpretations**

<b>Soil Series</b>	<b>Hydrologic Group</b>
Church	D
Grier	D
Kinthead	C
Montoya	D

### **Recreational Uses:**

This site has limited recreation potential due to the dense plant growth and the lack of shade during the summer. Camping, hiking and picnicking is poor. Hunting for upland game birds and rabbits is fair. Hunting for antelope is poor to fair. The terrain of the “wide open spaces” of the area enhances aesthetic appeal.

### **Wood Products:**

This site produces no wood products.

**Other Products:**

**Grazing:**

This site can be grazed any season of the year, but it is better utilized in spring and early winter before alkali sacaton matures. The site is better suited to be grazed by cattle and horses due to the coarseness of the forage produced by alkali sacaton. Maximum production on this site can be achieved by mowing and using as hay or concentrating cattle on the site before alkali sacaton matures and resting in alternate years. Approximately 90 percent of the total annual yield are from species that furnish forage for livestock. Continuous yearlong grazing or grazing from the period of April through September will result in a plant community dominated by galleta or tobosa. Under continued overgrazing, burrograss will dominate. Under these conditions, plant cover and forage production is greatly reduced. Large bare areas are common. A system of deferred grazing, which varies the season of grazing and rest on this site during successive years, is needed to maintain or to improve the plant community. Winter rest will benefit fourwing saltbush. Spring rest will benefit western wheatgrass and bottlebrush squirreltail, and allow alkali sacaton sufficient time to “green up”. Summer rest (July-September) will benefit warm-season plants such as alkali sacaton, vine-mesquite and switchgrass.

**Other Information:**

**Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month**

<b>Similarity Index</b>	<b>Ac/AUM</b>
100 - 76	2.3 – 5.5
75 – 51	3.2 – 7.0
50 – 26	5.4 – 16.0
25 – 0	16.0+

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
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Switchgrass	Panicum virgatum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P

**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	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Switchgrass	Panicum virgatum	EP	D	D	D	D	D	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
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
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
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

**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
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	U	U	U	U	U	U	U
Locoweed	Oxytropis spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
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
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

**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: De Baca, Guadalupe, Quay, Roosevelt, 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: San Miguel, Quay, Guadalupe, De Baca and Chaves

Characteristic Soils Are:

Church	Grier
Kinhead	Montoya

Other Soils included are:

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	07/26/78	Don Sylvester	07/26/78

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	11/22/02	George Chavez	2/11/03