

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

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R070XC111NM

**Site Name:** Salt Flats

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

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

## PHYSIOGRAPHIC FEATURES

### **Narrative:**

This site occurs on level to gently sloping land that averages 3 percent or less and rarely exceeds 8 percent. Exposures vary and are not significant. What is normally a uniform slope may be broken by natural playas, potholes, or arroyos. Elevations range from 4,600 to 7,000 feet above sea level.

### **Land Form:**

1. Alluvial flat

2.

3.

### **Aspect:**

1. N/A

2.

3.

	<b>Minimum</b>	<b>Maximum</b>
<b>Elevation (feet)</b>	4,600	7,000
<b>Slope (percent)</b>	<3	8
<b>Water Table Depth (inches)</b>	9	12
	<b>Minimum</b>	<b>Maximum</b>
<b>Flooding:</b>		
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A
	<b>Minimum</b>	<b>Maximum</b>
<b>Ponding:</b>		
<b>Depth (inches)</b>	N/A	N/A
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A

### **Runoff Class:**

Negligible to medium

## CLIMATIC FEATURES

### **Narrative:**

The climate of the area is "semi-arid continental."

The average annual precipitation ranges from 13 to 16 inches. Variations of 5 inches, more or less, are not uncommon. Seventy-five percent of the precipitation falls from April to October. Most of the summer precipitation comes in the form of high intensity-short duration thunderstorms.

Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is about 50 degrees F with extremes of -29 degrees F in the winter and 103 degrees F in the summer.

The average frost-free season is 130 to 160 days. The last killing frost falling in early May and the first killing frost in early October.

Both temperature and precipitation favor warm-season perennial species. However, approximately 40 percent of the annual precipitation falls at a time favorable for cool-season plant growth. This allows the cool-season species to occupy an important component of this site. Strong winds blow from the west and southwest from February to June and rapidly dry out the soil during a critical stage for cool-season plant growth.

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>	<u>131</u>	<u>173</u>
<b>Freeze-free period (days):</b>	<u>155</u>	<u>187</u>
<b>Mean annual precipitation (inches):</b>	<u>13</u>	<u>16</u>

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

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.34	.92	15.6	42.1
February	.34	.81	19.9	52.9
March	.23	.98	24.4	59.7
April	.39	.96	31.4	68.9
May	.85	1.61	39.2	77.7
June	.89	1.62	46.9	87.1
July	1.77	2.75	53.1	88.5
August	2.46	3.22	51.9	85.7
September	1.54	2.26	44.3	80.4
October	1.00	1.51	32.8	70.5
November	.57	1.02	22.2	57.5
December	.34	1.16	15.9	49.3

**Climate Stations:**

Station ID	Location	Period
291918	Clines Corners 7SE, NM	From: 12/10/68 To: 11/30/00
292096	Corona 11SSW, NM	From: 12/01/77 To: 09/30/92
293060	Estancia, NM	From: 01/01/14 To: 12/31/00
293649	Gran Quivira Natl. Monument, NM	From: 06/01/38 To: 12/31/00
295965	Mountainair, NM	From: 03/01/14 To: 12/31/00
299405	Vaughn, NM	From: 01/01/71 To: 12/31/00

**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 on this site are typically deep loams that are affected by both high pH and total soluble salts. Surface crusting and sealing are common, water intake rates and permeability are moderately slow to very slow, and ponding is common after summer thunderstorms. Total water-holding capacity is high but that available to plants is often low.

**Parent Material Kind:** Marine deposits

**Parent Material Origin:** Gypsum

**Surface Texture:**

1. Loams
2.
3.

**Surface Texture Modifier:**

1. N/A
2.
3.

**Subsurface Texture Group:** Loam

**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>	Poorly	Well
<b>Permeability Class:</b>	Very slow	Moderately slow
<b>Depth (inches):</b>	10	>72
<b>Electrical Conductivity (mmhos/cm):</b>	0.00	16.00
<b>Sodium Absorption Ratio:</b>	N/A	N/A
<b>Soil Reaction (1:1 Water):</b>	7.9	9.6
<b>Soil Reaction (0.1M CaCl<sub>2</sub>):</b>	N/A	N/A
<b>Available Water Capacity (inches):</b>	1	5
<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

The aspect of this site is grassland mixed with scattered shrubs. Forbs production is variable and can assume the aspect dominate during years of abundant moisture. However, generally forbs are a minor component of this site.

Canopy Cover

Trees 0 – 1 %

Shrubs and half shrubs 2 – 5 %

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs 25 – 30

Bare ground 55 – 65

Surface cobble and stone 1 – 5

Litter (percent) 12 – 15

Litter (average depth in cm.) 3

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

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	225	488	750
Forb	24	52	80
Tree/Shrub/Vine	54	117	180
Lichen			
Moss			
Microbiotic Crusts			
Totals	300	650	1,000

**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 SPWR2	Alkali Sacaton Giant Sacaton	163 - 228	163 – 228
2	PASM	Western Wheatgrass	98 - 130	98 – 130
3	PAOB	Vine-mesquite	65 - 98	65 – 98
4	BOGR2 PLJA	Blue Grama Galleta	65 - 98	65 – 98
5	BOER4	Black Grama	33 - 65	33 – 65
6	DISP PUNU2	Desert Saltgrass Nuttail Alkaligrass	46 - 65	46 – 65
7	CATTA5	Salt Sedge	7 - 33	7 – 33
8	MURI MUAS MUTO2	Mat Muhly Alkali Muhly Ring Muhly	7 - 33	7 – 33
9	BUDA SCBR2	Buffalograss Burrograss	7 – 20	7 – 20
10	2GRAM	Other Grasses	7 – 20	7 - 20

**Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	ERIOG	Wildbuckwheat	7 – 20	7 – 20
12	SPCO	Scarlet Globemallow	7 – 20	7 – 20
13	SEFLF	Threadleaf Groundsel	7 – 20	7 – 20
14	2FORB	Other Forbs	7 – 20	7 - 20

**Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
15	ATCA2 ATCO	Fourwing Saltbush Shadscale	65 – 78	65 – 78
16	KRLA2 EPHED ARFR4	Winterfat Ephedra Fringed Sagewort	33 – 65	33 – 65
17	2SD	Other Shrubs	20 – 33	20 - 33

**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 which would appear on this site include: sand dropseed, threeawn, bottlebrush squirreltail, plains bristlegrass, common reedgrass, carex spp., wolftail and Halls panicum.

Other shrubs would include: yucca spp., rubber rabbitbrush, broom snakeweed, Bigelow sagebrush, and cacti spp..

Other forbs would include: fetid marigold, bladderpod, locoweed, and annual sunflowers.

**Plant Growth Curves**

Growth Curve ID 4311NM

Growth Curve Name: HCPC

Growth Curve Description: Mixed warm/cool season grassland with scattered shrubs and a minor component of forbs.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	15	25	25	8	5	0	0

## **ECOLOGICAL SITE INTERPRETATIONS**

### **Animal Community:**

Habitat for Wildlife:

This site provides habitat which supports a resident animal community that is characterized by pronghorn antelope, coyote, black-tailed jackrabbit, spotted ground squirrel, banner-tailed kangaroo rat, Botta's pocket gopher, silky pocket mouse, sparrow hawk, meadow lark, western spadefoot toad, leopard lizard, and prairie rattlesnake.

### **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>
Duncan	D
Harvey	B
Karde	B
Willard	B

### **Recreational Uses:**

Recreation on this site is limited chiefly by highly saline or alkaline soils and the site's general lack of natural beauty. Activities, including horseback riding, hunting, hiking, nature observation, photography, picnicking, and camping are fair.

### **Wood Products:**

There is no potential for wood products.

**Other Products:****Grazing**

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year. This site frequently is more productive than surrounding sites and can best be managed separately by fencing. This site will respond well to intensive grazing for short periods of time. Site deterioration results in a decline in alkali sacaton, western wheatgrass, vine-mesquite, and fourwing saltbush, with an increase in inland saltgrass, alkali muhly, buffalograss, and shadscale. This causes a decrease in production and ground cover. Under continued deterioration, woody species will dominate the site and erosion will increase.

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

<b>Similarity Index</b>	<b>Ac/AUM</b>
100 - 76	1.8 – 4.0
75 – 51	2.4 – 5.9
50 – 26	3.6 – 7.5
25 – 0	7.5+

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
Alkali Sacaton	Sporobolus airoides	EP	D	D	D	D	D	P	P	P	U	U	U	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
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	D	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	P	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
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Scarlet Globemallow	Sphaeralcea coccinea	EP	U	U	P	P	P	D	D	D	D	D	D	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
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	U	U	U	U	U	U	U
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Scarlet Globemallow	Sphaeralcea coccinea	EP	U	U	P	P	P	D	D	D	D	D	D	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: Chavez, De Baca, Guadalupe, Lincoln, San Miguel, Santa Fe, Torrance

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: Chaves, De Baca, Guadalupe, Lincoln, Sna Miguel, Santa Fe, Torrance.

**Characteristic Soils Are:**

Harvey	Karde
Willard	

**Other Soils included are:**

Duncan	
--------	--

**Site Description Approval:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	11/25/81	Donald H. Fulton	03/03/82

**Site Description Revision:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	06/19/02	George Chavez	12/17/02