

UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R-037XA035NM

Site Name: Sandy Upland

Precipitation or Climate Zone: 7-10"pz

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

Original Site Description Approval:

Site Date: \_\_\_\_\_

Site Author: \_\_\_\_\_

Site Approval: George Chavez

Approval Date: 2/29/2000

Revisions:

Revision Date: 2/25/2002

Revisor: David Trujillo

Revision Approval: \_\_\_\_\_

Approval Date: \_\_\_\_\_

Revision Notes: Convert to new Ecological Site format

## PHYSIOGRAPHIC FEATURES

### Narrative:

This site occurs as treads of high stream terraces, fan terraces and stable dunes of undulating plateaus, and structural benches. It does not benefit from run-in moisture from adjacent areas nor does it suffer from excessive loss from runoff. It occurs on all exposures. Slopes range from 0 to 8 percent. Elevations range from 4,700 to 5,900 feet.

### Land Form:

1. Stream terrace

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2. Dune

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3. Cuesta

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4. Mesa

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5. Valley side

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### Aspect:

1. N/A

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- 2.

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- 3.

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	Minimum	Maximum
Elevation (feet)	4700	5900
Slope (percent)	0	8
Water Table Depth (inches)	>60	>60
	Minimum	Maximum
Flooding:		
Frequency	None	None
Duration	None	None
	Minimum	Maximum
Ponding:		
Depth (inches)		
Frequency	None	None
Duration	None	None

### Runoff Class:

Negligible to Low

## CLIMATIC FEATURES

### Narrative:

Mean annual precipitation varies from 7 to 10 inches. About 60 percent of this moisture come as rain during the months of April through October. May and June are the driest months. Most of the moisture from November through March comes as snow. Winds of high velocity during late winter and early spring are common.

Mean temperatures for the hottest month, July, are about 83<sup>0</sup> F. The coldest month is January, when the mean temperature is about 27<sup>0</sup> F. Extreme temperatures of 104<sup>0</sup> F. for a high and -17<sup>0</sup> F. for a low have been recorded. Frost-free period ranges from 140 to 160 days.

The cool-season plants start growth in March and end with plant maturity and seed dissemination about mid-June. During June, July, August and September, the warm-season plants make optimum growth taking advantage of the warm temperature and moisture from tropical air out of the Gulf of Mexico. About 40 percent of the total precipitation is received during these summer months. The other 60 percent received during the fall-winter-spring months influence cool-season plants.

	Minimum	Maximum
Frost-free period (days):	140	160
Freeze-free period (days):	145	165
Mean annual precipitation (inches):	7	10

### Monthly moisture (inches) and temperature (<sup>0</sup>F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.52	.62	11	42.6
February	.43	.63	17.3	50.9
March	.45	.72	22.2	60.1
April	.46	.55	28.1	69.8
May	.38	.56	36.6	79.2
June	.27	.66	45.8	89.2
July	.58	1.43	53.9	94
August	.95	1.62	52	91.1
September	.83	1.28	43.5	83.7
October	.84	1.15	31.2	71.8
November	.66	.76	20.6	54.9
December	.59	.71	12.4	43.8

Climate Stations:						
Station ID		Location		Period		
				From:	To	:
298284		Shiprock NM		1961	1990	:
293340		Fruitland 2 E, NM		1961	1990	:
293134		Farmington 3 NE, NM		1961	1990	:
291647		Chaco Canyon Natl. Mon, NM		1961	1990	:
296465		Otis, NM		1961	1990	:
						:

#### INFLUENCING WATER FEATURES

Narrative:
This site is not influenced by water from 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 are deep to very deep and somewhat excessively to excessively well drained. They are formed in eolian, residuum and alluvium derived from sandstone. Surface textures include sand, fine sand, loamy fine sand and loamy sand. The subsoil has textures of loamy fine sand, channery fine sand, loamy sand and fine sand. Permeability is moderately rapid to rapid. Available water capacity to a depth of 40 inches is very low to low. Runoff is negligible to low and the hazard of water erosion is slight. The hazard of soil blowing is severe. The soils are neutral to strongly alkaline (pH 6.6-9.0), non to slightly sodic (SAR 0-10). And non to slightly saline (EC 0-4).

Characteristic taxonomic units are:

Shiprock SSA:

115-Denazar-Farb fine sands (Denazar part)

120-Nageezi-Denazar Association (Denazar part)

133-Razito sand

145-Razito-Huerfano Complex (Razito part)

275-Razito loamy sand

Other soils included are:

Parent Material Kind: Eolian, residuum and alluvium

Parent Material Origin: Sandstone

Surface Texture:

1. Sand
2. Fine sand
3. Loamy fine sand
4. Loamy sand

Surface Texture Modifier:

1. None
2.

Subsurface Texture Group: Sandy

Surface Fragments  $\leq 3''$  (% Cover): 0-10

Surface Fragments  $> 3''$  (% Cover): 0

Subsurface Fragments  $\leq 3''$  (% Volume): 0-15

Subsurface Fragments  $\geq 3''$  (% Volume): 0-30

	Minimum	Maximum
Drainage Class:	<u>Somewhat excessively</u>	<u>Excessively</u>
Permeability Class:	<u>Moderately rapid</u>	<u>Rapid</u>
Depth (inches):	<u>40</u>	<u>&gt;60</u>
Electrical Conductivity (mmhos/cm):	<u>0</u>	<u>4</u>
Sodium Absorption Ratio:	<u>0</u>	<u>10</u>
Soil Reaction (1:1 Water):	<u>6.6</u>	<u>9.0</u>
Soil Reaction (0.1M CaCl <sub>2</sub> ):	<u>N/A</u>	<u>N/A</u>
Available Water Capacity (inches):	<u>3</u>	<u>4</u>
Calcium Carbonate Equivalent (percent):	<u>0</u>	<u>30</u>

## 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:

This site has a plant community make up primarily of grasses with some shrubs and minor amounts of forbs. In the original plant community there is a mixture of both cool and warm season grasses. Plant species most likely to invade or increase on this site when it deteriorates are annual bursage, annual mustard, sandhill muhly, Greene rabbitbrush and /sand Mormontea. Continuous livestock grazing use during the winter and spring periods sill decrease the cool season grasses, which are replaced by lower forage value species.

Ground Cover (Aveage Percent of Surface Area).

Grasses & Forbs \_\_\_\_\_  
 Bare ground \_\_\_\_\_  
 Surface cobble and stone \_\_\_\_\_  
 Litter (percent) \_\_\_\_\_  
 Litter (average depth in cm.) \_\_\_\_\_

Plant Community Annual Production (by plant type):

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	175	280	350
Forb	12	20	25
Tree/Shrub/Vine	63	100	125
Lichen			
Moss			
Microbiotic Crusts			
Totals	250	400	500



Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
16	EPAR	Sand mormontea	20-40	20-40
17	EPCU	Cutler mormontea	0-8	0-8
18	GUSA2	Broom snakeweed	0-20	0-20
19	CHGR6	Greene rabbitbrush	0-8	0-8
20	OPPO	Plains pricklypear	0-4	0-4
21	ATCA2	Fourwing saltbush	0-8	0-8
22	KRLA2	Winterfat	0-4	0-4
23	YUAN2	Narrowleaf yucca	0-4	0-4
24	2SHRUB	Other shrubs	0-8	0-8

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 \_\_\_\_\_

Growth Curve Name: 037XA-1

Growth Curve Description: Average Precipitation Year

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
7	6	7	6	6	5	11	14	12	12	8	7

ECOLOGICAL SITE INTERPRETATIONS

#### Animal Community:

Fair to good plant diversity makes this site suitable for grassland wildlife species.

#### Hydrology Functions:

This site normally receives approximately 7-10 inches annual precipitation. Most summer rainfall occurs as brief sometimes-heavy thunderstorms. Slopes range from 0-8 percent. The soils are deep to very deep and somewhat excessively to excessively well drained. Surface and subsurface horizons are coarse textured. Permeability is moderately rapid to rapid. Available water capacity is very low to low. Runoff is negligible to low and the hazard of water erosion is slight.

#### Recreational Uses:

Hunting, horseback riding and wildlife observation are occasional recreation activities on this site. The grassy aspect of this site provides aesthetic appeal.

**Wood Products:**

This site has no significant value for wood products.

**Other Products:**

**Grazing:** This site is suitable for yearlong grazing by all classes of livestock. Grazing systems adapt well to this site and should be used. Soils in this site have a high wind erosion hazard and when the site is deteriorated erosion occurs on overgrazed areas, roads, cattle trails and concentration areas.

**Other Information:**

Plant Preference by Animal Kind:

	Code	Species Preference	Code
Stems	S	None Selected	N/S
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruit/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

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	
Indian ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	P	D	D	D	P	P	P	P
Galleta	<i>Pleuraphis jamesii</i>	EP	D	D	D	D	D	D	D	P	P	P	D	D	D
Sand dropseed	<i>Sporobolus cryptandrus</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D	D
Spike dropseed	<i>Sporobolus contractus</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D	D
Mesa dropseed	<i>Sporobolus flexuosus</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D	D
Giant dropseed	<i>Sporobolus giganteus</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D	D
Blue grama	<i>Bouteloua gracilis</i>	EP	D	D	D	D	D	D	D	P	P	P	D	D	D
Fendler threeawn	<i>Aristida purpurea</i> var. <i>fendleriana</i>	EP	U	U	D	D	D	D	U	U	U	U	U	U	U
Sandhill muhly	<i>Muhlenbergia pungens</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U	U
Needle and thread	<i>Hesperostipa comata</i>	EP	P	P	P	P	P	D	D	D	D	D	D	D	P
Globemallow	<i>Sphaeralcea</i>	EP	U	U	D	D	D	D	U	U	U	U	U	U	U
Smallflower aster	<i>Chaetopappa ericoides</i>	EP	U	U	D	D	D	D	U	U	U	U	U	U	U
Perennial forbs		EP	P	P	P	P	P	P	P	P	P	P	P	P	P
Annual forbs		EP	P	P	P	P	P	P	P	P	P	P	P	P	P
Sand mormontea	<i>Ephedra x arenicola</i>	S, L	U	U	U	U	U	U	U	U	U	U	U	U	U
Cutler mormontea	<i>Ephedra cutleri</i>	S, L	U	U	U	U	U	U	U	U	U	U	U	U	U
Broom snakeweed	<i>Gutierrezia sarothrae</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U	U
Greene rabbitbrush	<i>Chrysothamnus greenei</i>	S, L	U	U	U	U	U	U	U	U	U	U	U	U	U
Plains pricklypear	<i>Opuntia polyacantha</i>	L	U	U	U	U	U	U	U	U	U	U	U	U	U
Fourwing saltbush	<i>Atriplex canescens</i>	S, L	P	P	D	D	D	D	D	D	D	D	D	D	P

Animal Kind: Livestock

Animal Type: Cattle continued

Common Name	Scientific Name	Plant Part	Forage Preferences												
			J	F	M	A	M	J	J	A	S	O	N	D	
Winterfat	Krascheninnikovia lanata	S/L	P	P	D	D	D	D	D	D	D	P	P	P	P
Narrowleaf yucca	Yucca angustissima	F	U	U	U	P	P	P	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

Inventory Data References (narrative):

The potential historic climax plant community has been determined by study of range relict areas, or areas protected from excessive grazing. Trends in plant communities going from heavily grazed areas to lightly grazed areas, seasonal use pastures and historical accounts have also been used

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

State Correlation:

This site has been correlated with the following sites: \_\_\_\_\_

Type Locality:

State:   NM  

County:   San Juan  

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Township:   23N  

Range:   15W  

Section:   17  

Is the type locality sensitive?      Yes       No

General Legal Description:        Between Hunter Wash and Chaco River – Section 17, Township 23N, Range 15W – Navajo Reservation, NM  

Relationship to Other Established Classifications:

Other References: