

UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R-037XA021NM

Site Name: Loamy 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: 2/19/02

Revisor: DT

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

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

Revision Notes: Update to new Ecological Site Format

## PHYSIOGRAPHIC FEATURES

### Narrative:

This site occurs on gently undulating high stream terraces and fan remnants below mesas and cuestas. 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 1 to 15 percent. Elevations range from 4,900 to 6,300 feet.

### Land Form:

1. Alluvial fan
2. Fan remnant
3. Valley side

### Aspect:

1. No influence on this site.
- 2.
- 3.

Elevation (feet)	Minimum 4,900	Maximum 6,300
Slope (percent)	1	15
Water Table Depth (inches)	60	60
Flooding:	Minimum	Maximum
Frequency	None	Rare
Duration	None	Very brief
Ponding:	Minimum	Maximum
Depth (inches)	None	None
Frequency	None	None
Duration	None	None

### Runoff Class:

Low to medium

## 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	298284	Location	Shiprock NM	From:	1961	To	1990
	_____		_____		_____	:	_____
	_____		_____		_____		_____

Station ID	293340	Location	Fruitland 2 E, NM	From:	1961	To	1990
						:	
						Period	
Station ID	293134	Location	Farmington 3 NE, NM	From:	1961	To	1990
						:	
						Period	
Station ID	291647	Location	Chaco Canyon Natl. Mon, NM	From:	1961	To	1990
						:	
						Period	
Station ID	296465	Location	Otis, NM	From:	1961	To	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 very deep and well drained. They are formed in alluvium derived from sandstone, shale and quartzite. Surface textures include fine sandy loam and sandy clay loam. The subsoil has textures of gravelly sandy clay loam, gravelly sandy loam, clay loam, fine sandy loam, sandy clay loam, loam, sandy loam and very cobbly coarse sand. Permeability is moderate. Available water capacity is moderate to high. Runoff is very low to medium and the hazard of water erosion is very slight to moderate. The hazard of soil blowing is moderate to severe. The soils are non to slightly saline (EC 0-8); non to slightly sodic (SAR 0-13); and slightly to strongly alkaline (pH 7.4-9.0).

### Shiprock SSA:

155-Mesa fine sandy loam

195-Tewa fine sandy loam

210-Mack-Mesa fine sandy loam

270-Fruitland sandy clay loam

295-Mesa sandy clay loam

Other soils included are:

Parent Material Kind: Eolian material and slope alluvium

Parent Material Origin: Sandstone & Shale

### Surface Texture:

1. Fine sandy loam

2. Sandy clay loam

3. Clay loam

### Surface Texture Modifier:

1.

2.

3.

Subsurface Texture Group: Loamy

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

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

Subsurface Fragments  $\leq 3''$  (% Volume): 0-45

Subsurface Fragments  $\geq 3''$  (% Volume): 0-36

Minimum

Maximum

Drainage Class:	Moderately well	Somewhat excessive
Permeability Class:	Slow	Moderately slow
Depth (inches):	>60	>60
Electrical Conductivity (mmhos/cm):	0	8
Sodium Absorption Ratio:	0	13
Soil Reaction (1:1 Water):	7.4	9
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	4	6
Calcium Carbonate Equivalent (percent):		

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 range site has a plant community made up primarily of short and mid grasses, mixed with shrubs and a small percentage 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 Russian thistle, annual weeds, galleta, alkali sacaton, Greene rabbitbrush and broom snakeweed. When this site is continuously grazed during the winter and spring periods, cool season grasses and palatable shrubs are replaced by lower value forage plants.

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs	<u>15</u>
Bare ground	<u>50</u>
Surface gravel	<u>1</u>
Surface cobble and stone	<u>0</u>
Litter (percent)	<u>34</u>
Litter (average depth in cm.)	<u>2</u>

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	280	360	440
Forb	18	22	28
Tree/Shrub/Vine	52	68	82
Lichen			
Moss			
Microbiotic Crusts			
Totals	350	450	550

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	PLJA	Galleta	90-113	90-113
2	ACHY	Indian ricegrass	45-68	45-68
3	ELEL5	Bottlebrush squirreltail	24-54	24-54
4	BOGR2	Blue grama	24-54	24-54
5	BOER4	Black grama	0-23	0-23
6	SPCR	Sand dropseed	0-10	0-10
7	SPAI	Alkali sacaton	0-23	0-23
8	ARPUF	Fendler threeawn	0-5	0-5
9	2GP	Other perennial grasses	0-14	0-14

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	CHER2	Smallflower aster	0-5	0-5
11	2FP	Perennial forbs	5-14	5-14
12	2FA	Annual forbs	0-5	0-5

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant	Common Name	Species Annual	Group Annual

	Symbol		Production	Production
13	ATCA2	Fourwing saltbush	23-45	23-45
14	CHGR6	Greene rabbitbrush	0-14	0-14
15	KRLA2	Winterfat	0-14	0-14
16	GUSA2	Broom snakeweed	0-9	0-9
17	ATCO	Shadscale	0-5	0-5
18	ERNAB2	Bigelow rubber rabbitbrush	0-5	0-5
19	2SHRUB	Other shrubs	0-9	0-9

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: \_\_\_\_\_

This site provides habitat for numerous species of wildlife. Common mammals include coyote, gray fox, badger, porcupine, black-tailed jackrabbit, desert cottontail, Gunnison's prairie dog, Steven's woodrat, western harvest mouse, banner-tailed kangaroo rat, deer mouse and pallid bat. A few of the common birds include mourning dove, cliff swallow, rock wren and black-throated sparrow. The plains spadefoot toad is an amphibian common to the site. Reptiles include collared lizard, side-blotched lizard, gopher/bull snake and prairie rattlesnake. The shrub component native to this site furnishes valuable browse as well as providing multi layered thermal, nesting and hiding cover for many 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 1-15 percent. Runoff is very low to medium and the hazard of water erosion is very slight to moderate. As basal cover and litter are reduced and the size of gaps between vegetation increases leaving the surface soils exposed to accelerated erosion. Pedestals, rills and gullies may form.

#### Recreational Uses:

The natural rugged beauty of this site lends itself to outdoor activities such as sightseeing, bird watching, wildlife photography, hiking and horseback riding. Care must be taken to prepare for cold winters, and hot dry summer temperatures.

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 and is easily traversed. It will respond quickly to a system of grazing. This site is susceptible to erosion, particularly overgrazed areas, old roads, cattle trails and concentration areas.

Other Information:

N/A

Plant Preference by Animal Kind:

Animal Kind: Cattle

Animal Type: \_\_\_\_\_

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Galleta	<i>Pleuraphis jamesii</i>	EP	D	D	D	D	D	D	P	P	P	D	D	D
Indian ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	D	D	D	P	P	P	P
Bottlebrush squirreltail	<i>Elymus elymoides</i>	EP	P	P	P	D	D	D	D	D	D	D	D	D
Blue grama	<i>Bouteloua gracillis</i>	EP	D	D	D	D	D	D	P	P	P	D	D	D
Black grama	<i>Bouteloua eripoda</i>	EP	D	D	P	P	P	P	P	P	P	P	P	D
Sand dropseed	<i>Sporobolus cryptandrus</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Alkali sacaton	<i>Sporobolus airoides</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Fendler threeawn	<i>Aristida purpurea</i> var. <i>fendleriana</i>	EP	U	U	D	D	D	U	U	U	U	U	U	U
Smallflower aster	<i>Chaetopappa ericoides</i>	EP	U	U	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
Annual forbs		EP	P	P	P	P	P	P	P	P	P	P	P	P
Fourwing saltbush	<i>Atriplex canescens</i>	S,L	P	P	D	D	D	D	D	D	D	D	D	P
Greene rabbitbrush	<i>Chrysothamnus Greenei</i>	S/L	U	U	U	U	U	U	U	U	U	U	U	U
Winterfat	<i>Krascheninnikovia lanata</i>	S/L	P	P	D	D	D	D	D	D	P	P	P	P
Broom snakeweed	<i>Gutierrezia sarothrae</i>	S/L	U	U	U	U	U	U	U	U	U	U	U	U
Shadscale	<i>Atriplex confertifolia</i>	S/L	D	D	D	U	U	U	U	U	D	D	D	D
Bigelow rubber rabbitbrush	<i>Ericameria nauseosa</i> ssp. <i>nauseosa</i> var. <i>bigelovii</i>	S/L	U	U	U	U	U	U	U	U	U	U	U	U

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: 19W

Section: 2

Is the type locality sensitive?      Yes       No

General Legal Description: Tsin Nas Kid topographic quadrangle – about 2.5 miles NW of Two Grey Hills, NM. Navajo Indian Reservation

Relationship to Other Established Classifications:

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<b>Other References:</b>