

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R-037XA016NM

Site Name: Clay Loam Terrace (Sodic)

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 low stream and fan terraces of valley floors and below mesas and cuestas. It may receive some additional run-in moisture from surrounding areas, but little benefit is realized because of the soil properties. Slopes range from 0 to 5 percent. Elevations range from 4,700 to 6,100 feet.

Land Form:

1. Low Stream terrace

2. Fan terraces of Valley floor

- 3.

Aspect:

1. No influence on this site.

- 2.

- 3.

	Minimum	Maximum
Elevation (feet)	4700	6100
Slope (percent)	0	5
Water Table Depth (inches)	>60	>60
	Minimum	Maximum
Flooding:		
Frequency	None	Rare
Duration	None	Very brief
	Minimum	Maximum
Ponding:		
Depth (inches)	None	None
Frequency	None	None
Duration	None	None

Runoff Class:

Low to Very High

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 83⁰ F. The coldest month is January, when the mean temperature is about 27⁰ F. Extreme temperatures of 104⁰ F. for a high and -17⁰ 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 (⁰F) 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:	Period 1961 To 1990
	_____		_____		: _____
Station ID	293340	Location	Fruitland 2 E, NM	From:	Period 1961 To 1990
	_____		_____		: _____
Station ID	293134	Location	Farmington 3 NE, NM	From:	Period 1961 To 1990
	_____		_____		: _____
Station ID	291647	Location	Chaco Canyon Natl. Mon, NM	From:	Period 1961 To 1990
	_____		_____		: _____
Station ID	296465	Location	Otis, NM	From:	Period 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 formed in alluvium derived from shale, siltstone and sandstone. Surface textures include clay loam, sandy clay loam, silty clay loam, loam and very fine sandy loam. The subsoil has textures of silty clay loam, silty clay, sandy clay loam, loam, clay loam and fine sandy loam. Permeability is moderately to very slow. Available water capacity is low to moderate. Runoff is Low to very high and the hazard of water erosion is slight to severe. The hazard of soil blowing is severe. The soils are moderate to very strongly alkaline (pH 7.9 - 9.6). They are very slightly to strongly saline (EC 2-16) and slightly to moderately sodic (SAR 5-30).

Characteristic taxonomic units are:

Shiprock SSA:

107-Tocito-Gullied land complex (Tocito part)

122-Blueflat-Notal Assoc. (Notal part)

160-Notal-Escavada-Riverwash assoc. (Notal part)

170-Notal sandy clay loam

177-Notal silty clay loam

200-Tocito loam

Other soils included are:

Parent Material Kind: Alluvium

Parent Material Origin: Sandstone , shale, siltstone

Surface Texture:

1. Clay loam

2. Silty clay loam

3. Loam

Surface Texture Modifier:

1. None

2.

3.

Subsurface Texture Group: Loamy

Surface Fragments <=3" (% Cover):	<u>0</u>
Surface Fragments >3" (% Cover):	<u>0</u>
Subsurface Fragments <=3" (% Volume):	<u>0-10</u>
Subsurface Fragments >=3" (% Volume):	<u>0</u>

	<u>Minimum</u>	<u>Maximum</u>
Drainage Class:	<u>Well drained</u>	<u>Well drained</u>
Permeability Class:	<u>Very slow</u>	<u>Moderately slow</u>
Depth (inches):	<u>>60</u>	<u>>60</u>
Electrical Conductivity (mmhos/cm):	<u>2</u>	<u>16</u>
Sodium Absorption Ratio:	<u>5</u>	<u>30</u>
Soil Reaction (1:1 Water):	<u>7.9</u>	<u>9.6</u>
Soil Reaction (0.1M CaCl2):	<u>N/A</u>	<u>N/A</u>
Available Water Capacity (inches):	<u>6</u>	<u>6</u>
Calcium Carbonate Equivalent (percent):	<u>5</u>	<u>10</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 ecological site has a plant community made up primarily of grasses, shrubs and a small percentage of forbs. In the original plant community there are more warm season grasses than cool season. The high sodium content in the soil determines many of the species that grow on the site.

Plant species most likely to invade or increase on this site when it deteriorates are Russian thistle, ribscale, black greasewood, and other annual weeds. When this site is continuously grazed yearlong, the desirable species will be replaced by less palatable plants. The sodium adapted mound saltbush will increase as the site loses the grass species.

Ground Cover (Average 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			
Forb			
Tree/Shrub/Vine			
Lichen			
Moss			
Microbiotic Crusts			
Totals	400	500	600

8	ATOB	Mound saltbush	100-125	100-125
9	SAVE4	Black greasewood	5-25	5-25
10	SUTO	Torrey's seepweed	0-15	0-15
11	ATCA2	Fourwing saltbush	0-25	0-25
12	ATFA	Sickle saltbush	0-5	0-5
13		Castle valley clover	0-5	0-5
14	2SHRUB	Other shrubs	0-15	0-15

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: _____

Competition between wildlife and cattle can be severe during all seasons. This site has fair to good diversity in the plant community. It provides important yearlong food and cover for wildlife. Brush management practices should maximize edge effect, allow for corridors to and from water.

Hydrology Functions:

This site normally receives approximately 7-10 inches annual precipitation. Most summer rainfall occurs as brief sometimes-heavy thunderstorms. Slopes range from 0-5 percent. Runoff is low to very high, and the hazard of water erosion is low on soils with slopes <1 percent. As the slope increases to 5 percent the potential for water erosion increases to very high.. When an abundance of sodium occurs clay particles in the soil disperse and plug the pore spaces decreasing water infiltration, percolation and drainage and increasing the erosion potential.

Recreational Uses:

Wildlife observations, horseback riding, photography and hiking are all recreational activities that can be enjoyed on this site. 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 grazing by all classes of livestock during most seasons of the year. Planned grazing systems can be readily adapted to this site. This site is susceptible to wind erosion, particularly overgrazed areas with little or no vegetation cover.

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
Alkali sacaton	<i>Sporobolus airoides</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Galleta	<i>Pleuraphis jamesii</i>	EP	D	D	D	D	D	D	P	P	P	D	D	D
Bottlebrush squirreltail	<i>Elymus elymoides</i>	EP	P	P	P	D	D	D	D	D	D	D	D	D
Powells saltweed	<i>Atriplex powellii</i>	S, L	U	U	U	U	U	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
Mound saltbush	<i>Atriplex obovata</i>	S, L	D	D	D	U	U	U	U	U	D	D	D	D
Black greasewood	<i>Sarcobatus vermiculatus</i>	S, L	D	D	U	U	U	U	U	U	U	U	D	D
Mojave seablite	<i>Suaeda moquinii</i>	S, L	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	P
Sickle saltbush	<i>Atriplex falcata</i>	S, L	P	P	D	D	D	D	D	D	D	D	D	P
Valley saltbush	<i>Atriplex cuneata</i>	S, L	D	D	D	U	U	U	U	U	D	D	D	D

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: 22N

Range: 16W

Section: 3

Is the type locality sensitive? Yes No

General Legal Description: Great Bend Quad – Section 3, Township 22N, Range 16 W, Navajo Reservation, NM

Relationship to Other Established Classifications:

Other References:

