

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R-037XA028NM

Site Name: Sandy Bottom

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 on flood plains of valley floors and eolian mantled high flood plains adjacent to the San Juan River and Chaco River. It receives some additional moisture from rare to frequent flooding and has influence of a fluctuating water table. It occurs on all exposures. Slopes range from 0 to 1 percent. Elevations range from 4,600 to 6,000 feet.

Land Form:

1. Flood plains
- 2.
- 3.

Aspect:

1. N/A
- 2.
- 3.

	Minimum	Maximum
Elevation (feet)	4,600	6,000
Slope (percent)	0	3
Water Table Depth (inches)	66	>66
Flooding:	Minimum	Maximum
Frequency	Rare	Occasional
Duration	Very brief	Very brief
Ponding:	Minimum	Maximum
Depth (inches)	N/A	N/A
Frequency	None	None
Duration	None	None

Comment [DT1]: Access NASIS to get data

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 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	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 very deep and well drained. They are formed in recent alluvium derived from sandstone and quartzite. Surface textures include very fine sandy loam and sand. The subsoil has textures of fine sand, very fine sandy loam, sand, and loamy fine sand. Permeability is moderate to moderately rapid. Available water capacity is very low to low. Runoff is negligible to low and the hazard of water erosion is none to slight. The hazard of soil blowing is severe. The depth to water table is 5 to 6 feet. They are non to slightly saline (EC 0-8), non sodic (SAR 0-5) and slightly to strongly alkaline (pH 7.4-9.0).

Characteristic taxonomic units are:

Shiprock SSA:

147-Escavada Sand

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

165-Jeddito-Escavada Assoc. (Escavada part)

Other soils included are:

Parent Material Kind: Alluvium
 Parent Material Origin: Sandstone and quartzite

Surface Texture:

1. Sand
2. Very fine sandy loam
3.

Surface Texture Modifier:

1. None
2.
3.

Subsurface Texture Group: Sandy
 Surface Fragments <=3" (% Cover): 0
 Surface Fragments >3" (% Cover): 0
 Subsurface Fragments <=3" (% Volume): 0-5
 Subsurface Fragments >=3" (% Volume): 0

Minimum

Maximum

Drainage Class:	<u>Well drained</u>	<u>Well drained</u>
Permeability Class:	<u>Moderate</u>	<u>Moderately rapid</u>
Depth (inches):	<u>>60</u>	<u>>60</u>
Electrical Conductivity (mmhos/cm):	<u>0</u>	<u>8</u>
Sodium Absorption Ratio:	<u>0</u>	<u>5</u>
Soil Reaction (1:1 Water):	<u>7.4</u>	<u>9.0</u>
Soil Reaction (0.1M CaCl ₂):	<u>N/A</u>	<u>N/A</u>
Available Water Capacity (inches):	<u>2</u>	<u>3</u>
Calcium Carbonate Equivalent (percent):	<u>1</u>	<u>5</u>

PLANT COMMUNITIES

Ecological Dynamics of the Site:

A large, empty rectangular box with a thin black border, intended for a detailed description of the site's ecological dynamics.

Plant Communities and Transitional Pathways (diagram)

A large, empty rectangular box with a thin black border, intended for a diagram illustrating plant communities and their transitional pathways.

Plant Community Name: Historic Climax Plant Community
 Plant Community Sequence Number: 1 Narrative Label: HCPC

Plant Community Narrative:

This site has a plant community made up primarily of mid and short grasses and some shrubs. In the original plant community there is a mixture of both cool and warm season grasses and shrubs.

Plant species most likely to invade or increase on this site when it deteriorates are saltcedar, Russian olive, cheatgrass, Russian thistle, goldenweed, green rubber rabbitbrush and annual forbs. Continuous livestock grazing use during the winter and spring periods will decrease the cool season grasses, which are replaced by lower forage value grasses and shrubs.

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	360	510	600
Forb	60	85	100
Tree/Shrub/Vine	180	255	300
Lichen			
Moss			
Microbiotic Crusts			
Totals	600	850	1000

13	TARA	Saltcedar*	128-170	128-170
14	ATCA2	Fourwing saltbush	43-85	43-85
15	ERNAG	Green rubber rabbitbrush	0-26	0-26
16	GUSA2	Broom snakeweed	0-26	0-26
17	2SHRUB	Other shrubs	0-43	0-43

* Introduced plant now part of the potential plant community

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 PrecipitationYear

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:

Extra run-in water produces thickets of shrubs and some trees which supply habitat for various wildlife species. These corridors are used as travel lanes by larger animals.

Hydrology Functions:

This site normally receives approximately 7-10 inches annual precipitation. Most summer rainfall occurs as brief sometimes-heavy thunderstorms. Slopes range from 0-1 percent. . Runoff is negligible to low and the hazard of water erosion is none to slight. . The depth to water table is 5 to 6 feet. Capillary water rises from a fluctuating water table in early spring and rainfall and floodwater wet the profile in the late summer.

Recreational Uses:

This site is characterized by flood plains, which provide a stark contrast to the surrounding uplands. Bird watching, hunting and horseback riding are a few of the popular activities suited to this site.

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. Planned grazing systems adapt well to use on this site. When the stream bottoms and floodplains are in flood stage, this site can be very hazardous to livestock. The soils have a high wind erosion hazard rating leaving overgrazed areas especially susceptible to accelerated erosion.

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	
Western wheatgrass	<i>Pascopyrum smithii</i>	EP	D	D	P	P	P	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	
Indian ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	D	D	D	P	P	P	P	
Sand dropseed	<i>Sporobolus cryptandrus</i>	EP	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	
Giant dropseed	<i>Sporobolus giganteus</i>	EP	D	D	D	D	P	P	P	D	D	D	D	D	
Galleta	<i>Pleuraphis jamesii</i>	EP	D	D	D	D	D	D	P	P	P	D	D	D	
Inland saltgrass	<i>Distichlis spicata</i>	EP	D	D	D	D	D	D	D	D	U	U	U	D	
Common reed	<i>Phragmites australis</i>	EP	U	D	D	D	D	P	P	P	D	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	
Saltcedar*	<i>Tamarix ramosissima</i>	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	
Green rubber rabbitbrush	<i>Ericameria nauseosa</i> var. <i>glabrata</i>	S, L	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	

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: 29N

Range: 16W

Section: 20

Is the type locality sensitive? Yes No

General Legal Description: Along the Chaco River – 7-8 miles ESE of Shiprock, NM – NW1/4 Sec. 20, T29N, R16W - Navajo Reservation, NM.

Relationship to Other Established Classifications:

Other References:

