UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XB118NM

Site Name: Bottomland

Precipitation or Climate Zone: 10-16"

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs in valley or flood plain positions, including large swales or draws with substantial drainage areas, which receive periodic inundation from floodwaters. Slopes average less than 3 percent. Elevations range from 6000 to 7300 feet.

Land Form:

1. flood plain
2. valley floor
3. valley

Aspect:

1. not significant
2.
3.

	Minimum	Maximum
Elevation (feet)	6000	7596
Slope (percent)	0	4
Water Table Depth (inches)	--	--

Flooding:	Occasional	Frequent
Frequency	--	Very brief
Duration	--	--

Ponding:	Minimum	Maximum
Depth (inches)	--	--
Frequency	-	--
Duration	--	--

Runoff Class:

Negligible to medium

CLIMATIC FEATURES

Narrative:

Average annual precipitation varies from about 10 inches to just over 16 inches. Fluctuations ranging from about 5 inches to 25 inches are not uncommon. The overall climate is characterized by cold dry winters in which winter moisture is less than summer. As much as half or more of the annual precipitation can be expected to come during the period of July through September. Thus, fall conditions are often more favorable for good growth of cool-season perennial grasses, shrubs, and forbs than are those of spring.

The average frost-free season is about 120 days and extends from approximately mid-May to early or mid-September. Average annual air temperatures are 50 degrees F or lower and summer maximums rarely exceed 100 degrees F. Winter minimums typically approach or go below zero. Monthly mean temperatures exceed 70 degrees F for the period of July and August.

Rainfall patterns generally favor warm-season perennial vegetation, while the temperature regime tends to favor cool-season vegetation. This creates a somewhat complex community of plants on a given range site which is quite susceptible to disturbance and is at or near its productive potential only when both natural warm- and cool- season dominants are present.

	Minimum	Maximum
Frost-free period (days):	51	171
Freeze-free period (days):	130	252
Mean annual precipitation (inches):	10	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.40	.91	12.9	47.0
February	.43	.65	16.6	51.2
March	.47	1.10	20.9	57.1
April	.30	.49	26.1	65.3
May	.46	.98	33.4	74.2
June	.51	.57	41.4	84.2
July	2.15	3.45	50.4	85.1
August	2.28	3.03	48.7	82.4
September	1.29	1.68	41.4	77.9
October	.81	1.12	29.4	69.2
November	.38	.71	19.1	57.3
December	.53	.95	13.1	48.9

Climate Stations:

					Period		
Station ID	290640	Location	Augustine2E	From:	05/01/26	To:	07/31/00
Station ID	296812	Location	Pietown 19NE	From:	09/01/88	To:	07/31/00
Station ID	297180	Location	Quemado	From:	08/01/15	To:	07/31/00

Period

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from wetlands or streams.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:
These soils are deep with moderately fine to moderately coarse-textured surfaces. Permeability is moderate to moderately slow, and the available water capacity is moderately high to high. A thin strata of subsurface materials from gravel to clay is common. Erosion hazard is slight when vegetative cover is at or near its potential.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed material derived from sandstone, siltstone and shale

Surface Texture:

1. Clay loam
2. Sandy clay loam
3. Silt loam

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Clay loam, sandy clay loam, silt loam
Surface Fragments <=3" (% Volume): --
Surface Fragments >3" (% Volume): --
Subsurface Fragments <=3" (%Volume): 7-13%
Subsurface Fragments >=3" (%Volume): --

Drainage Class:	Minimum weak	Maximum Somewhat excessively
Permeability Class:	Very slow	Moderately rapid
Depth (inches):	0	60
Electrical Conductivity (mmhos/cm):	0	2.0
Sodium Absorption Ratio:	--	--
Soil Reaction (1:1 Water):	7.4	9.0
Soil Reaction (0.1M CaCl2):	--	--
Available Water Capacity (inches):	4	8
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 is a high-producing grassland site dominated by such species as alkali sacaton, vine-mesquite, western wheatgrass, and blue grama. Lesser amounts of spike muhly, bottlebrush squirreltail, and galleta are also common. Fourwing saltbush and rabbitbrush are the more common shrubs or half-shrubs. Forbs are minor but are evenly distributed over the site.

Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	55
Bare ground	12
Surface gravel	
Surface cobble and stone	1
Litter (percent)	30
Litter (average depth in cm.)	3
Surface Gravel (% cover)	

Plant Community Annual Production (by plant type):

	Annual Production (lbs/ac)		
Plant Type	Low	RV	High
Grass/Grasslike	1080	1890	2700
Forb	36	63	90
Tree/Shrub/Vine	300	210	120
Lichen	--	--	--
Moss	--	--	--
Microbiotic Crusts	--	--	--
Totals	1416	2163	2910

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	Alkali sacaton	630-840	630-840
2	PASM	Western wheatgrass	420-630	420-630
3	PAOB	Vine mesquite	21-105	21-105
4	BOGR2 MUWR PLJA	Blue grama Spike muhly Galleta	210-315	210-315
5	ELEL5	Bottlebrush squirreltail	21-105	21-105
6	MURI MUWE MUTO2 ARIST SPORO	Mat muhly Creeping muhly Ring muhly Threeawns Dropseeds	21-105	21-105
7	SPWR2	Giant sacaton	21-63	21-63
8	various	Others	21-63	21-63

Plant Type - Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
9	ATCA2	Fourwing saltbush	63-210	63-210
10	ERNAN5 GUSA2	Rubber rabbitbrush Broom snakeweed	21-105	21-105
11	TECA2	Spineless horsebrush	21-63	21-63
	ARFR4	Fringed sagewort	21-63	21-63
	ARBI3	Bigelow sagebrush	21-63	21-63

Plant Type – Forb

12	2FP	Perennial forb	21-105	21-105
13	2FA	Annual forb	21-63	21-63

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 NM 0309

Growth Curve Name: HCPC

Growth Curve Description: WP-2 Bottomland HCPC Warm/Cool season perennial plant community.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	12	10	15	20	25	8	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

This range site provides habitats which support a resident animal community that is characterized by pronghorn antelope, coyote, black-tailed jackrabbit, Botta's pocket gopher, sparrow hawk, mourning dove, chipping sparrow, Western spadefoot, leopard lizard, and prairie rattlesnake.

The chestnut-collared longspur winters on this site, and the common raven and prairie falcon hunt over it.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Moriarty	B

Recreational Uses:

This site offers a limited opportunity for establishing small water area, usually of an intermittent nature, in the form of ponds or tanks. It also has potential for hiking, horseback riding, nature observation, photography, picnicking, and camping. The establishment of trails for hiking or horseback riding should be done with care, however, since frequently used trails can furnish places for natural floodwaters to channel and thus begin gullying of the site. Permanent sites for picnicking and camping are best located away from this site because of flooding hazard.

Lush vegetative growth resulting from summer flooding can cause this site to contrast sharply with those surrounding it, and natural beauty is thus enhanced.

Wood Products:

This site has little or no significant value for wood products.

Other Products:

This site is suitable for grazing by most kinds and classes of livestock with out regard to season of year. However, excessive grazing use over a prolonged period will result in a decrease in western wheatgrass, vine-mesquite and alkali sacaton. Blue grama may increase initially but will eventually decrease if heavy grazing continues and the site then becomes subject to take over by rabbitbrush and other invading woody plants, such as sagebrush or greasewood. The site is subject to gullying or draining when the natural potential vegetation is so disturbed and may not be recoverable using improved grazing management alone.

Other Information:	
Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month	
Similarity Index	Ac/AUM
100 - 76	2.0 - 2.9
75 – 51	2.7 - 4.3
50 – 26	4.0 - 7.5
25 – 0	7.5 +

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	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Alkali sacaton	Sporobolus airoides	EP	D	D	D	D	D	P	P	P	D	D	D	D
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	P	P	D	D
Blue grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Spike muhly	Muhlenbergia wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Giant sacaton	Sporobolus wrightii	EP	D	D	D	D	D	P	P	P	D	D	D	D
Bottlebrush squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Winterfat	Krascheninnikovia lanata	EP	D	D	P	P	P	P	P	P	D	D	D	D
Fourwing saltbush	Atriplex canescens	EP	P	P	P	P	D	D	D	D	D	P	P	P

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 states:

Inventory Data References:

Data Source	Number of Records	Sample Period	State	County

Type Locality:

Relationship to Other Established Classifications:

Other References:
Data collection for this site was done in conjunction with the progressive soil surveys within New Mexico and Arizona Plateaus & Mesas Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: McKinley, Cibola, Catron, Socorro, Sandoval.

Characteristic Soils Are:	
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	02/15/80	Don Sylvester	02/15/80

Site Description Revision:

Author	Date	Approval	Date
Brenda Simpson	08/20/02	George Chavez	12/16/02