

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Field Office

SILTY SHALLOW (Calcareous),
5-8" p.z.
RANGE SITE DESCRIPTION

Major Land Resource Unit: D-37A
Site No.: 037AY038NM

Date: AUG 24 1993
Approved By: R.S. *Cammichael*

A. PHYSICAL CHARACTERISTICS

1. Physiographic Features

This upland site occurs on toeslopes, footslopes, cuesta dipslopes, above benches on undulating plateaus. It does not benefit from run-in moisture from adjacent areas and may suffer some from runoff on some slopes. It occurs on all exposures. Slopes range from 1 to 15 percent. Elevations range from 4,900 to 5,600 feet.

2. Soils

- a. The soils are shallow and well drained. They are formed in alluvium and residuum derived from shale and siltstone. Surface textures include loam, silt loam and very fine sandy loam. The subsoil has textures of loam, silt loam, clay loam and silty clay loam. Siltstone is at a depth of 17-18 inches. Permeability is moderately slow. Available water capacity is very low. Runoff is medium and the hazard of water erosion is moderate. The hazard of soil blowing is severe. The soils are mildly to moderately alkaline (pH 7.4-8.4). They are slightly to moderately saline (EC 4-16) and slightly sodic (SAR 5-13).

b. Major soils associated with this site are:

Soil Taxonomic Unit

Shiprock SSA

- 137 -- Persayo-Carin-Patel Complex (Persayo part)
250 -- Littlehat-Persayo-Nataani Complex (Persayo part)
260 -- Littlehat-Persayo-Badland Complex (Persayo part)

Additional information may be found in Section II of the Field Office Technical Guide.

3. Climatic Features

- a. Mean annual precipitation varies from 5 to 8 inches. About 60 percent of this moisture comes 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.
- b. Mean temperatures for the hottest month, July, are about 83° F. The coldest month is January, when the mean temperature is about 27° F. Extreme temperatures of 104° F. for a high and -17° F. for a low have been recorded. Frost free period ranges from 140 to 160 days.
- c. 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.

4. Native (potential or climax) Vegetation

- a. This range site has a plant community made up primarily of low growing shrubs, grasses and small amounts of forbs. In the original plant community there is a mixture of both cool and warm season plants.
- b. Plant species most likely to invade or increase on this site when it deteriorates are cheatgrass, Russian thistle, scorpionweed, other annual forbs, Castle Valley clover and bud sagebrush. When this site is continuously grazed, cool season grasses like Indian ricegrass and bottlebrush squirreltail are replaced by cheatgrass, annual weeds and other less desirable plants.
- c. The following is a list of plants that are found in the potential plant community. Range condition of areas within this site is determined by comparing the present plant community with that of this potential plant community. Count as potential no more than the maximum percent shown on the guide for any species. Four condition classes are used to express this degree of comparison of the present plant community to that of the potential:

Excellent	76-100
Good	51-75
Fair	26-50
Poor	0-25

Relative percentage of total plant community by weight:

<u>Grasses and Grasslike (25-35%)</u>	<u>Percent</u>
Indian ricegrass (ORHY)	15-20
galleta (HIJA)	5-10
bottlebrush squirreltail (SIHY)	1-5
alkali sacaton (SPAI)	0-5
other perennial grasses (PPGG)	0-5

<u>Forbs (1-5%)</u>	<u>Percent</u>
globemallow (SPHAL)	0-2
perennial forbs (PPFF)	1-2
annual forbs (AAFF)	0-1

<u>Shrubs and Trees (50-60%)</u>	<u>Percent</u>
Castle Valley clover (ATCU)	25-30
bud sagebrush (ARSP5)	15-20
mat saltbush (ATCO4)	0-1
hairy coldenia (COHI)	0-1
sickle saltbush (ATFA)	0-1
winterfat (EULA5)	0-1
shadscale (ATCO)	0-1
other shrubs (SSSS)	0-2

This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year dependent upon abnormal precipitation or other climatic factors.

The potential (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.

5. Total Annual Production

In excellent condition this site will produce approximately the following amounts of air dry herbage per acre in:

favorable year	<u>350</u> lbs.
normal year	<u>250</u> lbs.
unfavorable year	<u>150</u> lbs.

B. MAJOR USES

1. Livestock

a. Site factors influencing management

This site is suitable for grazing by all classes of livestock most seasons of the year. The winter season would be the best because of the plant species involved. Planned grazing systems can be readily adapted to this site.

b. Guide to Initial Stocking Rate

The following stocking rates may be used as a guide to establish a safe starting stocking, but should be evaluated and livestock numbers adjusted based on actual use experience and climatic fluctuations.

<u>Condition Class</u>	<u>Percent Climax Vegetation</u>	<u>AC/AUM</u>	<u>AUM/AC</u>
Excellent	76-100	6-12	.08-.17
Good	51- 75	7-14	.07-.14
Fair	26- 50	10-20	.05-.10
Poor	0- 25	17-33	.03-.06

2. Wildlife

a. Site factors influencing wildlife.

Wildlife species are transient on this site, from other adjacent areas.

b. Guide to site plant use by wildlife species.

<u>Plant Species</u>	<u>Selected Wildlife Species</u>		
	Mule Deer	Pronghorn	Mourning Dove
Indian ricegrass	G-Foliage	G-Foliage	G-Seed
galleta	F-Foliage	F-Foliage	
bottlebrush squirreltail	F-Foliage	F-Foliage	
globemallow	G-Foliage	G-Foliage	G-Seed
perennial forbs	G-Foliage	G-Foliage	G-Seed
winterfat	G-Foliage	G-Foliage	
bud sagebrush	G-Foliage	G-Foliage	
Castle Valley clover	G-Foliage	G-Foliage	

G = Good F = Fair P = Poor X = Used, Extent Unknown

3. Recreation and Natural Beauty

a. Land Form -

Toeslopes, footslopes, cuesta dipslopes, above benches on undulating plateaus.

b. Landscape Quality -

The unique plant cover provides an interesting scene from that of the adjacent sites.

c. Climate -

Winters are cold. Springtime is usually windy. The summers are mild with typical Southwest thunderstorms.

d. Activities -

Hiking, wildlife observations and photography are occasional recreational activities.

4. Other Uses -

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C. THREATENED OR ENDANGERED PLANTS AND ANIMALS

1. Plants -

None known.

2. Animals -

None known.

D. LOCATION OF TYPICAL EXAMPLE OF THE SITE

1. State location - Rattlesnake Quad - 4 miles SSE of Cudei, NM - Sec. 20 T30N, R18W - Navajo Res., NM.

2. Field office site location -

E. FIELD OFFICES

Shiprock, NM; Aztec, NM.