

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

This draft ecological site description is approved for field use and testing for a one-year period beginning MM, YYYY.
Additional information and comments on this site should be sent to the Utah State Range Management Specialist.

STATE: Utah

SITE TYPE: Rangeland

ECOLOGICAL SITE NAME: Desert Shallow Clay (Mat Saltbush)

SITE NUMBER: 035XY124UT

MLRA: D-35

Original Site Description: Author: TLJ

Date: 01/05/1984

Revised Site Description: Author: TLJ

Date: 09/16/1993

Revised Site Description: Author: SM

Date: 03/01/2004

Approved by: Title: Signed:

Date:

Ecological Site Definition - A distinctive kind of land, with specific physical characteristics, which differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation, and in its response to management.

A. PHYSICAL CHARACTERISTICS

1. SOILS

Depth: very shallow to moderately deep (5-40 inches)

Surface Textures: silty clay loam, and silty clay

Surface Fragments (<=3" % cover, >3" % cover): 0 to 5%

Subsurface Textures: silty clay, and silty clay loam

Subsurface Fragments (<=3" % vol. >3" % vol.): 0 to 15%

Geologic Parent Materials: alluvium, colluvium, and residuum derived from Tropic Shale

Moisture Regime: Typic Aridic

Temperature Regime: Mesic

Runoff: medium to rapid

Permeability (min-max): very slow to slow (less than 0.06 to 0.2 in/hr)

Drainage Class (min-max): Well drained

Water Erosion Hazard: moderate to high

Wind Erosion Hazard: slight to moderate

Electrical Conductivity (EC in mmhos/cm): 0 to 16 mmhos/cm (slightly to moderately saline)

Sodium Adsorption Ration (SAR): 0 to 8 (slightly to strongly sodic)

Calcium Carbonate Equivalent (%): 15-30%

pH Range (1:1 water): 7.9 to 9.6

Available Water Capacity (inches): 1.0 to 3.5 inches and 5-7 inches

These soils have 1-10% gypsum and 35-55% clay. Very shallow to shallow soils (5-20 Inches) have an available water capacity of 1-3.5 inches. Moderately deep soils (20-40 inches) have an available water capacity of 5-7 inches.

Major Soils Associated With This Site (*Soil Survey Area + Series Name*):

Capitol Reef NP: **Hanksville** in mapunit 140 & **Chipeta** in mapunits 88, 120, 135, 140, 270 & 295

Grand Staircase Escalante NM (686): **Chipeta** & **Hanksville** in mapunit 5150.

Henry Mountains Area (631): **Chipeta** in mapunits 21, 23, 24, 25, 37, 39, 51, 58, 88 & 89

Glen Canyon NRA: **Chipeta** in mapunits 108, 111 & 126 & **Shalet Family** in mapunit 178.

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

Site Type: Rangeland
 Ecological Site Name: Desert Shallow Clay (Mat Saltbush)
 Site Number: 035XY124UT

Approximately 65–70% occurs as rain from March through October. On the average, April, May, and June are the driest months and August, September, and October are the wettest months. Precipitation is extremely variable from month to month and from year to year. Much of the precipitation occurs as convection thunderstorms.

Influencing Water Features (if any):

Wetland Description (Cowardin System) System Subsystem Class
 None

Stream Types (Rosgen System) System
 None

C. PLANT COMMUNITY CHARACTERISTICS

1. Potential Plant Community Description and Ecological Factors

(Includes dominant vegetative aspect, cool-season and warm-season components, typical plant spacing, etc.)

The dominant aspect of this plant community is mat saltbush. The composition by air-weight is approximately 15% perennial grasses, 10% forbs, and 75% shrubs.

2. Plant Community Composition by Weight and Percentage

Grasses and Grasslike, 10-20%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Galleta	PLJA	0	9	20	5	10
Bottlebrush Squirreltail	ELEL5	1	2	6	1	3
Indian Ricegrass	ACHY	1	2	6	1	3
Other Perennial Grasses	PPGG	1	5	10	3	5
Other Annual Grasses	AAGG	1	5	10	3	5

Forbs, 10-15%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Desert Trumpet	ERIN4	0	5	10	3	5
Pacific Aster	ASCH2	2	2	6	1	3
Gooseberryleaf Globemallow	SPGR2	2	2	6	1	3
Woolly Milkvetch	ASMO7	2	2	6	1	3
Pale Evening-Primrose	OEPA	2	2	6	1	3
Woolly Plaintain	PLPA2	2	2	6	1	3
Sego Lily	CANU3	2	2	6	1	3
Utah Fleabane	ERUT	2	2	6	1	3
Redroot Buckwheat	ERRA3	2	2	6	1	3
Manybranched Ipomopsis	IPPO2	2	2	6	1	3
Common Sunflower	HEAN3	2	2	6	1	3
Desert Biscuitroot	LOFO	2	2	6	1	3
Purpledisk Helianthella	HEMI2	2	2	6	1	3
Other Perennial Grasses	PPGG	2	9	20	5	10
Other Annual Grasses	AAGG	2	9	20	5	10

Shrubs, 70-80%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Mat Saltbush	ATCO4	0	96	130	55	65
Bud Sagebrush	PIDE4	1	5	10	3	5
Plains Pricklypear	OPPO	1	5	10	3	5
Shortspine Horsebrush	TESP2	1	5	10	3	5
Castlevally Saltbush	ATCU	1	5	10	3	5
Winterfat	KRLA2	1	5	10	3	5
Broom Snakeweed	GUSA2	1	5	10	3	5
Threadleaf Snakeweed	GUMI	1	5	10	3	5
Other Shrubs	SSSS	1	18	30	10	15

3. Plant Community Annual Production

At the highest potential similarity index, this site will produce approximately the following amount of air-dry herbage, expressed as pounds/acre:

	Low	High
Favorable Year	325	350
Average Year	175	200
Unfavorable Year	125	150

4. Ground Cover and Structure

a. Vegetative

Vegetation Type	Percent Canopy Cover	Height Range	Percent Basal Area Cover
Grasses & Grass-like (perennial)	5	0.5-1 ft.	2
Forbs (perennial)	5	0.25-1 ft.	2
Shrubs	40	0.5-1 ft.	20
Trees	-	-	-
Cryptogams	0-10%	0.1-1 cm	0-10%

b. Other

Litter	0-5%
Coarse Fragments	0-5%
Bare Ground	45-65%

5. Ecological Dynamics of the Site

(Includes a discussion of seral stages; fire influence and effects; effects of prolonged wet or dry periods; resistance to change; the influence of such things as grazing, rodent concentrations, insects, diseases, introduced species, and soil erosion or deposition; other stable vegetative states associated with this site as a result of extreme disturbance)

As ecological condition deteriorates due to overgrazing Galleta, Indian ricegrass, and bottlebrush squirreltail decrease while shrubs and forbs will increase. Halogeton and Russian thistle are most likely to invade this site.

Suitability for rangeland seeding is very poor. The major limitations are low precipitation, salinity, sodicity, poor infiltration, shallow soils, and low available water capacity.

Plant Communities & Transitional Pathways

(Show a steady state diagram with influences to move from one steady state to another)

6. Plant Growth Curves

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Percent Growth	0	0	5	25	65	5	0	0	0	0	0	0
Name	PNC											
ID Number	UT1241											
Description	Excellent Condition											

Site Type: Rangeland
 Ecological Site Name: Desert Shallow Clay (Mat Saltbush)
 Site Number: 035XY124UT

7. Similar Sites

(Give related range sites in MLRA's above and below)

Desert Shallow Clay (Mat Saltbush) 034XY117UT

8. Associated Sites Within MLRA

(Give site name and number)

Desert Clay (Castlevalley Saltbush)	034XY103UT
Desert Sandy Loam (Fourwing Saltbush)	035XY118UT
Desert Shallow Loam (Shadscale)	035XY122UT
Desert Shallow Clay (Shadscale)	035XY125UT
Desert Shallow Sandy Loam (Shadscale)	035XY130UT
Desert Very Shallow Gypsum (Torrey Mormon Tea)	035XY142UT
Semidesert Sandy Loam (Blackbrush)	035XY218UT
Semidesert Shallow Loam (Utah Juniper-Pinyon)	035XY221UT
Semidesert Stony Loam (Blackbrush)	035XY243UT
Semidesert Very Steep Stony Loam (Salina Wildrye)	035XY260UT

9. Correlated Sites in Other States

(Give site name and number)

D. MAJOR USES OF THIS SITE

1. Livestock

a. Site Factors Influencing Management

The suitability for livestock grazing is fair. This site provides proper grazing for cattle and sheep during all seasons of the year.

b. Guide to Forage Quality (Plant preference by season)

Species - Cattle	Oct-Nov	Dec-Feb	Mar-May	Jun-Sep
Galleta	VG	F, G	VG	VG
Desert Trumpet	-	-	P	P
Mat Saltbush	F, G	P	VG	F, G

Species - Sheep	Oct-Nov	Dec-Feb	Mar-May	Jun-Sep
Galleta	F, G	F, G	VF	F, G
Desert Trumpet	-	-	F	P
Mat Saltbush	F, G	F, G	VG	F, G

VG = Very Good G = Good F = Fair P = Poor

2. Wildlife

a. Site Factors Influencing Management

This site provides food and limited cover for wildlife.

b. List of Potential Species Present

Wildlife using this site includes rabbit, coyote, sparrow, kangaroo rat, snakes, bobcat, and hawk.

This is a short list of the more common species found. Many other species are present as well and migratory birds are present at times.

c. Guide to Forage Preference of Managed Wildlife Species

Wildlife Species →	Mule Deer		Elk	
Plant Species ↓	Use	Season	Use	Season
Galleta	B	F, W, Sp, Su	B	F, W, Sp, Su
Desert Trumpet	C	Sp, Su	C	Sp, Su
Mat Saltbush	B	F, W, Sp, Su	C	F, W, Sp, Su

Use - A = preferred or desirable

B = some use, but less important

C = little use or used occasionally

Season -

F = fall (Oct-Nov)

W = winter (Dec-Feb)

Sp. = spring (Mar-May)

Su. = summer (Jun-Sep)

3. Recreational Uses

Recreation activities are hiking and hunting. This site has shape contrast in aesthetics and landscape.

4. Wood Products

None.

5. Other Uses

The soil is in hydrologic group D. The hydrologic curve numbers are 80 to 89 depending on watershed condition.

E. THREATENED AND ENDANGERED SPECIES

1. Plants – This section will be completed as information is available.

2. Animals – This section will be completed as information is available.

Site Type: Rangeland
 Ecological Site Name: Desert Shallow Clay (Mat Saltbush)
 Site Number: 035XY124UT

F. MODAL LOCATION AND DOCUMENTATION

State: County:
 Latitude: Longitude:
 Section: Township: Range:
 General Legal Description:

Capitol Reef: **Chipeta:** 1 mile NW of Bittercreek Divide. 1,200 ft. N & 1,400 ft, W of the SE corner of Sec. 31, T. 32S., R. 8E. **Hanksville:** Blue Flat; 200 ft. S & 500 ft. W of the NE corner of Sec. 2, T. 29S., R. 7E.

Grand Staircase: **Hanksville & Chipeta:** Located NE of the town of Big Water, along the base of the Burning Hills and Smoky Mountain and S of the town of Tropic along Bryce Creek.

Field Office Site Location

Price, Richfield, & Panguitch Field Offices.

Legal Description:

Data Collected and References

Sampling Source	Number of Records	Range Similarity Index			
		> 76%	51-75%	26-50%	0-25%
NRCS - ECS - 417					
UTAH - RANGE - 2					
Permanent Transect Location					

4. Other References