

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: 034XY117UT

MLRA: 034

Original Site Description: Author: JLB GWL

Date: 05/15/1981

Revised Site Description: Author: JLB GWL

Date: 12/07/1993

Approved by: Title: State Range Cons. Signed: Pat Shaver

Date: 06/25/1994

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

(description narrative of this particular site)

1. SOILS

Depth: 10-40 inches

Surface Textures:

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

Subsurface Textures: Clay Loam to Silty Clay

Subsurface Fragments(<=3" % vol, >3" % vol):

Geologic Parent Materials: Residuum from Shale

Moisture Regime:

Temperature Regime: Mesic

Runoff: Medium to Rapid

Permeability(min-max): Very Slow to Slow

Drainage Class(min-max): Well Drained

Water Erosion Hazard:

Wind Erosion Hazard:

Electrical Conductivity (EC in mmhos/cm):

Sodium Adsorption Ration (SAR):

Soil Reaction (1:1 water):

Soil Reaction (0.1 M CaCl₂):

pH Range:

Available Water Capacity (inches):

Major Soils Associated With This Site:

Soil Survey Area: 047, 013

Hanksville SiCL 2-25%

Denco SiCL Saline-Sodic 2-8%

Chipeta SiCL 8-15%

Motto FLV-L 2-25%

Motto CBX-SL 2-8%

Blueflat Saline L 2-25%

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: 034XY117UT

1. Potential Plant Community Description and Ecological Factors

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

2. Plant Community Composition by Weight and Percentage

Grasses and Grasslike, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Galleta	HIJA		10	20	5	10
Bottlebrush squirreltail	ELEL5		6	10	3	5
Indian ricegrass	ACHY		2	6	1	3
Other perennial grasses	PPGG	1	6	10	3	5
Other annual grasses	AAGG	1	6	10	3	5

Forbs, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Indian pipeweed	ERIN4		4	10	2	5
Pacific aster	ASCH2		2	6	1	3
Scarlet globemallow	SPCO		2	6	1	3
Woolly milkvetch	ASMO7		2	6	1	3
Pale evening primrose	OEPA		2	4	1	2
Woolly plantain	PLPA2		2	4	1	2
Sego lily	CANU3	2	2	4	1	2
Basin fleabane	ERPU9	2	2	4	1	2
Bateman wild buckwheat	ERBA5	2	2	4	1	2
Uinta gilia	GIST2	2	2	4	1	2
Common sunflower	HEAN3	2	2	4	1	2
Mountain desert parsley	LOGR	2	2	4	1	2
Prairie sunflower	HEPE	2	2	4	1	2
Basin daisy	PLINO	2	2	4	1	2
Other perennial forbs	PPFF	2	6	10	3	5
Other annual forbs	AAFF	2	6	10	3	5

Shrubs/Vines, %

Site Type: Rangeland
 Ecological Site Name: Desert Shallow Clay (Mat saltbush)
 Site Number: 034XY117UT

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Mat saltbush	ATCO4		120	140	60	70
Bud sagebrush	ARSP5		6	10	3	5
Castlevalley saltbush	ATCU	3	6	10	3	5
Winterfat	KRLA2	3	6	10	3	5
Broom snakeweed	GUSA2	3	6	10	3	5
Central pricklypear	OPPO	3	6	10	3	5
Shortspine horsebrush	TESP2	3	6	10	3	5
Whipple fishhook cactus	SCWH	3	6	10	3	5
Shadscale	ATCO	3	6	10	3	5
Other shrubs	SSSS	3	10	20	5	10

Trees, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High

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	300	350
Average Year	150	200
Unfavorable Year	100	150

4. Ground Cover and Structure

a. Vegetative

Vegetation Type	Percent Canopy Cover	Height Range (ft.)	Percent Basal Area Cover
Grasses & Grass-like (perennial)	10	1	5
Forbs (perennial)	5	1	2
Shrubs	30	1	15
Trees			
Cryptogams			

b. Other

Site Type: Rangeland
 Ecological Site Name: Desert Shallow Clay (Mat saltbush)
 Site Number: 034XY117UT

Litter	
Coarse Fragments	
Bare Ground	

5. Ecological Dynamics of the Site

As ecological condition deteriorates due to overgrazing, galleta, Indian ricegrass and bottlebrush squirreltail decrease while annuals and bare ground will increase. Fire is not an important factor in this ecosystem. Halogeton and Russian thistle are most likely to invade this site.

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	UT1151											
Description	Excellent Condition											

7. Aspect Differences Near MLRA Boundaries

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

8. Associated Sites Within MLRA

034XY101UT
 Desert Alkali Bench (Castlevally saltbush)

034XY103UT
 Desert Clay (Castlevally saltbush)

034XY121UT
 Desert Shallow Loam (Shadscale)

Miscellaneous Land Type
 Badlands

9. Correlated Sites in Other States

(Give site name and number)

D. MAJOR USES OF THIS SITE

1. Livestock

a. Site Factors Influencing Management

This site provides proper grazing for sheep and cattle during fall, winter, and spring.

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

Species	Oct-Nov	Dec-Feb	Mar-May	Jun-Sep

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 include mice, kangaroo rat, snake, jackrabbit, coyote, 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 →				
Plant Species ↓	Use	Season	Use	Season

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 values are hiking and hunting.

Site Type: Rangeland
 Ecological Site Name: Desert Shallow Clay (Mat saltbush)
 Site Number: 034XY117UT

4. Wood Products

None

5. Other Uses

E. THREATENED AND ENDANGERED SPECIES

1. Plants
2. Animals

F. MODAL LOCATION AND DOCUMENTATION

State: Utah County:
 Latitude: Longitude:

Modal Soil: Hanksville SiCL 2-25%, 25-50% — fine, mixed, calcareous, mesic Typic Torriorthents

Type Location: SW ¼, NW ¼; Section 22, Township 4S, Range 22E SLBM

General Legal Description:

Field Office Site Location

Roosevelt
 Price

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					

Other References

Site Type: Rangeland
 Ecological Site Name: Desert Shallow Clay (Mat saltbush)
 Site Number: 034XY117UT

Attachment 1

Ecological Reference Worksheet

Author(s)/participant(s): V. Keith Wadman
 Contact for lead author: _____ Reference site used? Yes/No
 Date: 6/20/04 MLRA: 034X Ecological Site: Desert Shallow Clay (34XY117UT) Mat saltbush, Galleta, Bottlebrush squirreltail. This must be verified based on soils and climate (see Ecological Site Description). Current plant community cannot be used to identify the ecological site.

Indicators For each indicator, describe the potential for the site. Where possible, (1) use numbers, (2) include expected range of values for above- and below-average years for each community within the reference state, when appropriate & (3) cite data. Continue descriptions on separate sheet.

1. Number and extent of rills: None to few. Any rills present should be short in length (less than 4 feet long) and follow the surface micro-features. Old rills should be weathered and muted in appearance. Surface cracking should not be mistaken for rills.

2. Presence of water flow patterns: Flow patterns wind around perennial plants bases and show little evidence of erosion. They are short and stable and there is little evidence of deposition. Surface cracking may be evident during dry periods.

3. Number and height of erosional pedestals or terracettes: Plants should show little or no pedestaling. Terracettes should be absent or rare.

4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bareground): 50 - 60%.

5. Number of gullies and erosion associated with gullies: None to few. Any gullies present should show little sign of active erosion and should be stabilized with vegetation.

6. Extent of wind scoured, blowouts and/or depositional areas: No evidence of wind generated soil movement. Wind caused blowouts and deposition are not present.

7. Amount of litter movement (describe size and distance expected to travel): Minimal redistribution caused by water. Minor litter removal may occur in flow channels with deposition occurring at points of obstruction. Fine litter may be removed from the site by wind action.

8. Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values for both plant canopy and interspaces, if different): 70 to 90% of this site should have an erosion rating of 5 or 6. 10 to 20% may have a rating of 3 to 5. The average should be a 5.

9. Soil surface structure and SOM content (include type and strength of structure, and A-horizon color and thickness for both plant canopy and interspaces, if different): Soil surface varies from 4 to 7". Structure is medium platy. Color is from reddish brown (5YR5/4) to olive gray (5YR4/2). Soil organic matter is <0.5%. An ochric epipedon extends to about 7 inches.

10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: When perennial vegetation decreases, reducing ground cover and increasing bare ground, runoff can increase and infiltration be reduced. A reduction in vegetative structure can reduce snow capture.

11. Presence and thickness of compaction layer (usually none; describe soil profile

Site Type: Rangeland
Ecological Site Name: Desert Shallow Clay (Mat saltbush)
Site Number: 034XY117UT

features which may be mistaken for compaction on this site): None. Bedrock occurs at approximately 37 inches.

12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: », >, = to indicate much greater than, greater than, and equal to): Assumed fire cycle of 70+ years. Perennial grasses, non-sprouting shrubs > sprouting shrubs, annual forbs > invaders such as Russian thistle & Halogeton. Dominants: Mat saltbush, Galleta & Bottlebrush squirreltail; Sub-dominants: Budsage, Castlevally saltbush & Winterfat. The perennial grass/non-sprouting shrub functioning group is expected on this site.

13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): All age classes of perennial grasses should be present. Slight decadence in the principle shrubs could occur near the end of the very long fire cycle.

14. Average percent litter cover (5-10%) and depth (.25-.50 inch).

15. Expected annual production (this is TOTAL above-ground production, not just forage production): 150 - 200 #/acre on an average year.

16. Potential invasive (including noxious) species (native and non-native). List species which characterize degraded states and which, after a threshold is crossed, "can, and often do, continue to increase regardless of the management of the site and may eventually dominate the site": Russian thistle, Halogeton, & Snakeweed.

17. Perennial plant reproductive capability: All perennial plants should have the ability to reproduce in all years, except in extreme drought years.