

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: Semidesert Silt Loam (Winterfat)

SITE NUMBER: 047BY244UT

MLRA: 047B

Original Site Description: Author:

Date:

Revised Site Description: Author: TS

Date: 06/09/1993

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

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

(description narrative of this particular site)

1. SOILS

Depth: 40-60 inches

Surface Textures: Strongly Alkali Silt Loam

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

Subsurface Textures: Silt Loam to Silty Clay Loam

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

Geologic Parent Materials: Alluvium from Limestone and Sandstone

Moisture Regime:

Temperature Regime:

Runoff: Slow

Permeability(min-max): Moderately Slow

Drainage Class(min-max):

Water Erosion Hazard: Slight

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): High

Major Soils Associated With This Site:

Soil Survey Area: 636

Codley SiL 1-2%

Codley SiL 2-5%

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

1. Potential Plant Community Description and Ecological Factors

The dominant aspect of the plant community is a shrub/grass combination. The shrubs are dominated by winterfat and basin big sagebrush. The grasses are dominated by western wheatgrass and Indian ricegrass. Forbs make up a very minor component of this plant community.

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
Western wheatgrass	PASM		120	200	15	25
Indian ricegrass	ACHY		80	120	10	15
Needleandthread	HECO26		24	40	3	5
Blue grama	BOGR2	1	8	40	1	5
Bottlebrush squirreltail	ELEL5	1	8	40	1	5
Other perennial grasses	PPGG	1	8	40	1	5
Other annual grasses	AAGG	1	8	40	1	5

Forbs, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Other perennial forbs	PPFF	2	40	40	5	10
Other annual forbs	AAFF	2	8	40	1	5

Shrubs, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Winterfat	KLRA2		120	200	15	25
Basin big sagebrush	ARTRT		80	160	10	20
Fourwing saltbush	ATCA2		24	40	3	5
Pigmy sagebrush	ARPY2	3	8	24	1	3
Broom Snakeweed	GUSA2	3	8	24	1	3
Low rabbitbrush	CHVI8	3	8	24	1	3
Rubber rabbitbrush	ERNA10	3	8	24	1	3
Fringed sagebrush	ARFR4	3	8	24	1	3
Other shrubs	SSSS	3	40	80	5	10

3. Plant Community Annual Production

Site Type: Rangeland

Ecological Site Name: Semidesert Silt Loam (Winterfat)

Site Number: 047BY244UT

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	800	1000
Average Year	600	800
Unfavorable Year	400	500

4. Ground Cover and Structure

a. Vegetative

Vegetation Type	Percent Canopy Cover	Height Range (ft.)	Percent Basal Area Cover
Grasses & Grass-like (perennial)	20	2	10
Forbs (perennial)	5	1	2
Shrubs	20	3	10
Trees			
Cryptogams			

b. Other

Litter	
Coarse Fragments	
Bare Ground	

5. Ecological Dynamics of the Site

As ecological condition deteriorates, winterfat, Indian ricegrass, and western wheatgrass decrease, while basin big sagebrush and rubber rabbitbrush increase. When the potential natural plant community is burned, basin big sagebrush decreases while western wheatgrass and Indian ricegrass increase. Cheatgrass is 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	10	20	25	20	10	5	5	0	0
Name	PNC											
ID Number	UT2441											
Description	Excellent Condition											

7. Aspect Differences Near MLRA Boundaries

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

Site Type: Rangeland
 Ecological Site Name: Semidesert Silt Loam (Winterfat)
 Site Number: 047BY244UT

8. Associated Sites Within MLRA

047BY6210UT
 Semidesert Gravelly Loam (Black sagebrush)

047BY221UT
 Semidesert Loam (Black sagebrush)

9. Correlated Sites in Other States

(Give site name and number)

D. MAJOR USES OF THIS SITE

1. Livestock

a. Site Factors Influencing Management

Good spring/fall grazing for cattle and sheep.

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

No cover. Good to fair forage.

b. List of Potential Species Present

Mule deer and antelope.

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

Site Type: Rangeland
 Ecological Site Name: Semidesert Silt Loam (Winterfat)
 Site Number: 047BY244UT

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

This site has fair aesthetic appearances.

4. Wood Products

None

5. Other Uses

E. THREATENED AND ENDANGERED SPECIES

- 1. Plants
- 2. Animals

F. MODAL LOCATION AND DOCUMENTATION

State: Utah
 Latitude:

County:
 Longitude:

Site Type: Rangeland

Ecological Site Name: Semidesert Silt Loam (Winterfat)

Site Number: 047BY244UT

Modal Soil: Codley Silt Loam 1 to 2% — fine-silty, carbonatic, frigid Ustic Torriorthents

Type Location: SW ¼ Section 19, Township 35S, Range 4W

General Legal Description:

Field Office Site Location

Richfield

Cedar City

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

Attachment 1

Ecological Reference Worksheet

Author(s)/participant(s): V. Keith Wadman
 Contact for lead author: _____ Reference site used? Yes/No
 Date: 6/27/04 MLRA: 047B Ecological Site: Semidesert Silt Loam (47BY244UT)
Winterfat, Basin big sagebrush, Western wheatgrass, Indian ricegrass. 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 somewhat short in length (less than 4 feet long) and follow the surface micro-features. Old rills should be weathered and muted in appearance. An increase in rill formation may be seen after disturbance events such as recent fire or thunderstorms.

2. Presence of water flow patterns: Flow patterns wind around perennial plant bases and show little to slight evidence of erosion. They are short and stable and there is minor evidence of deposition.

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

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 erosion and should be stabilized with vegetation.

6. Extent of wind scoured, blowouts and/or depositional areas: Minor 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): Most litter resides in place with slight redistribution caused by water movement. Minor litter removal may occur in flow channels with deposition occurring at points of obstruction.

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): 80 to 90% of this site should have an erosion rating of 5 to 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 typically is 7 inches. Structure is weak thick platy. Color is light brown (7.5YR6/4). Little difference in color under vegetation.

10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: When perennial grasses decrease, reducing ground cover and increasing bare ground, runoff will 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 features which may be mistaken for compaction on this site): None. An increase in clay content at about 17 inches could be mistaken for a compaction pan.

Site Type: Rangeland
Ecological Site Name: Semidesert Silt Loam (Winterfat)
Site Number: 047BY244UT

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 60-70+ years. Perennial grasses, non-sprouting shrubs > sprouting shrubs, annual forbs > invaders such as Cheatgrass & Halogeton. Dominants: Western wheatgrass, Winterfat; Sub-dominants: Basin big sagebrush, Indian ricegrass. 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 long fire cycle.

14. Average percent litter cover (10-20%) and depth (.25-.50 inch).

15. Expected annual production (this is TOTAL above-ground production, not just forage production): 600 - 800 #/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": Cheatgrass, Halogeton, Snakeweed, Green rabbitbrush, & Annual forbs.

17. Perennial plant reproductive capability: All perennial plants should have the ability to reproduce in all years, except in extreme drought years. Green rabbitbrush sprouts vigorously following fire.