

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 Loam (Creosotebush)

SITE NUMBER: 030XY110UT

MLRA: 030X

Original Site Description: Author: TS

Date: 05/05/1990

Revised Site Description: Author: TS

Date: 01/10/1994

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

Date: 07/25/1994

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: 20-60 inches

Surface Textures: Commonly Fine Sandy Loam but Ranges to Silty Loam

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

Subsurface Textures:

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

Geologic Parent Materials:

Moisture Regime:

Temperature Regime:

Runoff: Slow

Permeability(min-max): Moderately Rapid

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: 641

Harrisburg FSL, 1-5%

Tobler FSL, 1-5%

Harrisburg-Rockland Assoc.

St. George Silt Loam, 1-5%

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

1. Potential Plant Community Description and Ecological Factors

In excellent condition, this site has a dominant vegetative aspect of Creosotebush. The plant community is made up of 55 percent grasses, 10 percent forbs, and 35 percent shrubs. Important plants include big galleta, mesa dropseed, Indian ricegrass, annual forbs, fillaree, creosotebush, Nevada mormontea, and range ratany.

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
Big galleta	HIRI		150	144	25	24
Mesa dropseed	SPFL2		18	30	3	5
Red brome	BRRU2		12	18	2	3
Sand dropseed	SPCR		12	18	2	3
Indian ricegrass	ACHY		60	150	10	25
Bottlebrush squirreltail	ELEL5	1	18	30	3	5
Bush muhly	MUPO2	1	18	30	3	5
Fluffgrass	TRPH2	1	18	30	3	5
Sixweeks fescue	VUOC	1	18	30	3	5
Spike dropseed	SPCO4	1	18	30	3	5
Black grama	BOER4	1	18	30	3	5
Other perennial grasses	PPGG	1	18	30	3	5
Other annual grasses	AAGG	1	18	30	3	5

Forbs, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Other perennial forbs	PPFF					
Other annual forbs	AAFF					

Shrubs/Vines, %

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Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Creosotebush	LATR2		120	180	20	30
Nevada jointfir	EPNE		30	60	5	10
Range ratany	KRPAG		18	30	3	5
White bursage	FRDU		12	18	2	3
Winterfat	EULA5		6	12	1	2
Fourwing saltbush	ATCA2	1	18	30	3	5
Pricklypear	OPUNT	1	18	30	3	5
Threadleaf snakeweed	GUMI	1	18	30	3	5
Burrobrush	HYEM3	1	18	30	3	5
Other shrubs	SSSS	1	18	30	3	5

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	600	700
Average Year	400	600
Unfavorable Year	200	400

4. Ground Cover and Structure

a. Vegetative

Vegetation Type	Percent Canopy Cover	Height Range (ft)	Percent Basal Area Cover
Grasses & Grass-like (perennial)	2	0.5	1
Forbs (perennial)	1	0.2	0
Shrubs	8	3.0	2
Trees			
Cryptogams			

b. Other

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Litter	
Coarse Fragments	
Bare Ground	

5. Ecological Dynamics of the Site

Natural disturbances such as fire do not appear to be a part of this ecosystem. However, Russian thistle and other annuals would likely invade the site if such disturbances were to occur. Since drought is a natural occurrence on this site, most plants are well adapted to severe drought conditions and respond by going into dormancy. Being an extremely arid climate, this plant community is extremely fragile and sensitive to overgrazing.

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												
Name												
ID Number												
Description												

7. Aspect Differences Near MLRA Boundaries

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

8. Associated Sites Within MLRA

030XY120UT
 Desert Sand (Indian ricegrass)

030XY140UT
 Desert Shallow Hardpan (Creosotebush)

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 winter range for cattle, excellent winter climate, forage is marginal due to the invasions of annuals to the site.

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

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

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

2. Wildlife

a. Site Factors Influencing Management

This site provides food and cover for a few species of wildlife.

b. List of Potential Species Present

Wildlife species commonly found on this site include desert tortoise, cottontail rabbits, jackrabbits, kit fox, and coyote.

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

This section will be added as information is available.

4. Wood Products

None

5. Other Uses

E. THREATENED AND ENDANGERED SPECIES

1. Plants

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 2. Animals

F. MODAL LOCATION AND DOCUMENTATION

State: Utah County: Washington
 Latitude: Longitude:

Modal Soil: St. George SiL 1-5% Slopes – Typic Paleorthids

Type Location: Washington Fields

General Legal Description:

Field Office Site Location

Cedar City

Data Collected and References

Sampling Source	Number of Records	Range Similarity Index			
		> 76%	51-75%	26-50%	0-25%
NRCS - ECS - 417	19				
UTAH - RANGE - 2	1				
Permanent Transect Location					

Other References

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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: 030X Ecological Site: Desert Loam(30XY110UT) Big galleta, Indian ricegrass, Creosotebush. 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). They are somewhat widely spaced (3 to 6 feet) and follow the surface micro-features. Old rills should be weathered and muted in appearance.
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.
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): 30 - 50%. Lower where desert pavement occurs.
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: Little 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): Some redistribution caused by both wind and 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 2 to 9". Structure is weak platy to subangular blocky. Color is light brown (7.5YR6/4) to red (2.5YR4/6). An ochric epipedon extends to about 4 inches.
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 can increase and infiltration be reduced.
11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): None. A few soils have a hardpan at 35 to 44 inches that could be mistaken for a compaction layer.

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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 bunch grasses, non-sprouting shrubs > rhizomatous grasses, sprouting shrubs, annual forbs > invaders such as Russian thistle. Dominants: Big galleta & Indian ricegrass; Sub-dominants: Creosotebush & Nevada jointfir. 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 (5-10%) and depth (.50-.75 inch).

15. Expected annual production (this is TOTAL above-ground production, not just forage production): 400 - 600 #/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, Pricklypear, & Snakeweed.

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