

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 Sandy Loam (Shadscale)

SITE NUMBER: 028AY137UT

MLRA: 028A

Original Site Description: Author: DJS

Date: 09/01/1987

Revised Site Description: Author: DJS

Date: 06/03/1993

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

Date: 08/30/1993

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: 60 inches

Surface Textures: Loam or Sandy Loam

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

Subsurface Textures:

Subsurface Fragments(<=3" % vol, >3" % vol): 15-35%

Geologic Parent Materials: Lake Sediments from Mixed Materials

Moisture Regime:

Temperature Regime:

Runoff:

Permeability(min-max):

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 CaCl<sub>2</sub>):

pH Range:

Available Water Capacity (inches):

Major Soils Associated With This Site:

Soil Survey Area: 611

Hiko Springs SL

Izo SL

Mazuma FSL

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

#### **2. PHYSIOGRAPHIC FEATURES**



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## 1. Potential Plant Community Description and Ecological Factors

The dominant aspect of the plant community is Indian ricegrass. The composition by air-dry weight is approximately 50 percent perennial grasses, 5 percent forbs, and 45 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
Indian ricegrass	ACHY		137.5	192.5	25	35
Galleta	HIJA		27.5	55	5	10
Bottlebrush squirreltail	ELEL5		27.5	55	5	10
Needleandthread	HECO26		16.5	27.5	3	5
Other perennial grasses	PPGG	1	5.5	16.5	1	3
Other annual grasses	AAGG	1	5.5	16.5	1	3

### Forbs, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Gooseberryleaf globemallow	SPGR2	2	5.5	16.5	1	3
Shaggy fleabane	ERPU2	2	5.5	16.5	1	3
Cushion wild buckwheat	EROV	2	5.5	16.5	1	3
Slenderflower lemonweed	PSTE5	2	5.5	16.5	1	3
Tufted evening primrose	DECE2	2	5.5	16.5	1	3
Other perennial forbs	PPFF	2	16.5	27.5	3	5
Other annual forbs	A AFF	2	16.5	27.5	3	5

### Shrubs/Vines, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Shadscale	ATCO		82.5	110	15	20
Winterfat	KRLA2		82.5	110	15	20
Bud sagebrush	ARSP5		16.5	27.5	3	5
Narrowleaf low rabbitbrush	CHVIS5		16.5	27.5	3	5
Littleleaf horsebrush	TEGL	3	5.5	16.5	1	3
Spiny hopsage	GRSP	3	5.5	16.5	1	3
Granite pricklygilia	LEPU	3	5.5	16.5	1	3
Other shrubs	SSSS	3	16.5	27.5	3	5

### Trees, %

Common Name	National	Group	Pounds per Acre	% by Weight of
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	Symbol			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	550	700
Average Year	400	550
Unfavorable Year	150	200

**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	2	2
Shrubs	20	2	10
Trees			
Cryptogams			

b. Other

Litter	
Coarse Fragments	
Bare Ground	

**5. Ecological Dynamics of the Site**

As ecological condition deteriorates due to overgrazing by cattle, the less desirable shrubs will increase, while on the other hand continued heavy grazing by sheep will result in an increase in desirable grasses unless grazing is severe; cheatgrass and halogeton are then likely to invade the site.

When the potential natural plant community is burned Indian ricegrass and needleandthread decrease while rabbitbrush and annuals increase.

Annuals grasses and annual forbs 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**

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	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Percent Growth	0	0	5	25	50	10	0	0	5	5	0	0
Name	PNC											
ID Number	UT1161											
Description	Excellent Condition											

**7. Aspect Differences Near MLRA Boundaries**

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

**8. Associated Sites Within MLRA**

028AY140UT  
 Desert Silt Flat (Winterfat)

028AY122UT  
 Desert Gravelly Sandy Loam (Indian ricegrass)

028AY134UT  
 Desert Sand (Fourwing saltbush)

**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 is suited for sheep and cattle grazing 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 rabbit, coyote, fox, pronghorn antelope, and mule deer (seasonal).

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**

Hiking and hunting.

**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 Soils: Hiko Springs SL – coarse-loamy, mixed, mesic Typic

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Type Location: South and West of the Entrance to the Desert Range Experiment Station,  
 West of Milford, Utah.

General Legal Description:

**Field Office Site Location**

Logan  
 Murray  
 Provo  
 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	5				
UTAH - RANGE - 2					
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: 6/15/04 MLRA: 028A Ecological Site: Desert Sandy Loam(28AY137UT) Indian ricegrass, Shadscale, Winterfat 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 8 feet long). They should be somewhat widely spaced (4 to 8 feet) 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 plants bases and show minor evidence of erosion. They are short and stable and there is slight evidence of deposition. Evidence of flow may increase slightly with slope.

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): 40 - 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: Minor evidence of wind generated soil movement. Wind caused blowouts and deposition are not present or have healed over. Some wind generated soil movement and saltation can occur after fire or severe drought.

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 mat 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 4". Structure is weak platy to loose granular. Color is brown (10YR6/3). An ochric epipedon ranges to a depth of 14 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. A reduction in vegetative structure can reduce snow capture.

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

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<p>features which may be mistaken for compaction on this site): <a href="#">None</a>.</p>	<p>12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: », &gt;, = to indicate much greater than, greater than, and equal to): <a href="#">Assumed fire cycle of 60-70+ years. Perennial grasses, non-sprouting shrubs &gt; Annual grasses, sprouting shrubs, annual forbs &gt; invaders such as Cheatgrass &amp; Halogeton. Dominants: Indian ricegrass &amp; Galleta; Sub-dominants: Shadscale &amp; Winterfat. The perennial grass/non-sprouting shrub functioning groups are expected on this site.</a></p>
<p>13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): <a href="#">All age classes of perennial grasses should be present. Slight decadence in the principle shrubs could occur near the end of the fire cycle.</a></p>	<p>14. Average percent litter cover (<a href="#">10-20%</a>) and depth (<a href="#">.25-.50</a> inch).</p>
<p>15. Expected annual production (this is TOTAL above-ground production, not just forage production): <a href="#">400 - 550</a> #/acre on an average year.</p>	<p>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": <a href="#">Cheatgrass, Halogeton, &amp; Snakeweed</a>.</p>
<p>17. Perennial plant reproductive capability: <a href="#">All perennial plants should have the ability to reproduce in all years, except in extreme drought years.</a></p>	