

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: Upland Stony Loam (Black sagebrush)

SITE NUMBER: 047CY332UT

MLRA: 047C

Original Site Description: Author: GWL, LLR

Date: 03/18/1992

Revised Site Description: Author:

Date:

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: Very Cobbly Loam

Surface Fragments(<=3" % cover, >3" % cover): 40-50%

Subsurface Textures:

Subsurface Fragments(<=3" % vol, >3" % vol): >50%

Geologic Parent Materials: Colluvium and Residuum from Park City Limestone and Uinta-Duchesne River Interbedded Sandstone and Shale

Moisture Regime: Ustic

Temperature Regime: Frigid

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): 0.07-0.13

Major Soils Associated With This Site:

Soil Survey Area: 047

Tridell CBV-L, 25 to 50%

Deltree CBV-L, 4 to 30%

Tridell CBV-L, 4 to 25%

**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 general view of the site is black sagebrush and bluebunch wheatgrass. The composition by air-dry weight of the potential plant community is approximately 60 percent perennial grasses, 15 percent forbs, and 25 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
Bluebunch wheatgrass	PSSP6		227.5	260	35	40
Prairie junegrass	KOMA		32.5	65	5	10
Nevada bluegrass	PONE3		19.5	32.5	3	5
Needleandthread	HECO26	1	6.5	19.5	1	3
Indian ricegrass	ACHY	1	6.5	19.5	1	3
Sandberg bluegrass	POSE	1	6.5	19.5	1	3
Other perennial grasses	PPGG	1	19.5	32.5	3	5
Other annual grasses	AAGG	1	19.5	32.5	3	5

Forbs, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Stemless mock goldenweed	STACA		19.5	32.5	3	5
Blue flax	LIPE2		19.5	32.5	3	5
Carpet phlox	PHHO		19.5	32.5	3	5
Grassy rockgoldenrod	PEPU7	2	6.5	13	1	2
Hoary tansyaster	MACA2	2	6.5	13	1	2
Arrowleaf balsamroot	BASA3	2	6.5	13	1	2
Roughseed catseye	CRFL6	2	6.5	13	1	2
Pacific aster	ASCH2	2	6.5	13	1	2
Rocky Mountain beardtongue	PEST2	2	6.5	13	1	2
Lesser rushy milkvetch	ASCO12	2	6.5	13	1	2
Bastard toadflax	COUM	2	6.5	13	1	2
Little leaf pussytoes	ANMI3	2	6.5	13	1	2
Dustymaiden	CHDO	2	6.5	13	1	2
Other perennial forbs	PPFF	2	19.5	32.5	3	5
Other annual forbs	AAFF	2	19.5	32.5	3	5

Shrubs, %

Common Name	National Symbol	Group	Pounds per Acre	% by Weight of Total Composition
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			Low	High	Low	High
Black sagebrush	ARNO4		97.5	130	15	20
Slender wild buckwheat	ERMI4	3	6.5	19.5	1	3
Utah serviceberry	AMUT	3	6.5	19.5	1	3
Spineless horsebrush	TECA2	3	6.5	19.5	1	3
Winterfat	KRLA2	3	6.5	19.5	1	3
Central pricklypear	OPPO	3	6.5	19.5	1	3
Stickyleaf low rabbitbrush	CHVIV4	3	6.5	19.5	1	3
Other shrubs	SSSS	3	19.5	32.5	3	5

### **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	700	800
Average Year	550	650
Unfavorable Year	350	450

### **4. Ground Cover and Structure**

#### a. Vegetative

Vegetation Type	Percent Canopy Cover	Height Range (ft.)	Percent Basal Area Cover
Grasses & Grass-like (perennial)	40	2	20
Forbs (perennial)	5	1	5
Shrubs	15	2	10
Trees			
Cryptogams			

#### b. Other

Litter	
Coarse Fragments	
Bare Ground	

### **5. Ecological Dynamics of the Site**

As this site deteriorates due to grazing pressure, perennial grasses, blue flax, and balsamroot decrease, while black sagebrush increases. Fire will reduce or eliminate black sagebrush, but perennial and annual grasses and forbs will increase. Utah juniper may invade this site.

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### **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	15	40	20	10	5	5	0	0	0
Name	PNC											
ID Number	UT3321											
Description	Excellent Condition											

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Percent Growth	0	0	0	10	40	35	5	5	5	0	0	0
Name	Good Condition No.1											
ID Number	UT3322											
Description	wheatgrass, bluegrass, black sagebrush											

#### **7. Aspect Differences Near MLRA Boundaries**

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

#### **8. Associated Sites Within MLRA**

047CY320UT  
 Upland Shallow Loam (Black sagebrush)

047CY326UT  
 Upland Shallow Loam (Pinyon-Utah juniper)

#### **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 grazing for cattle and sheep during spring, summer and fall.

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 cover for a few species of wildlife.

b. List of Potential Species Present

Wildlife species using this site include sage grouse, rabbit, coyote, and mule deer.

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 site offers color and aesthetic appeal during the growing season.

**4. Wood Products**

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 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: Tridell CBV-L, 25 to 50%; 4 to 24% — loamy-skeletal, mixed Aridic Calciborolls

Type Location: 1800 feet South, 1800 feet west of the NE corner of Section MS 6907,  
 Township 2S, Range 22E

General Legal Description:

#### Field Office Site Location

Roosevelt

#### 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	4				
Permanent Transect Location					

#### Other References

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## Attachment 1

Ecological Reference Worksheet
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Author(s)/participant(s): V. Keith Wadman  
 Contact for lead author: \_\_\_\_\_ Reference site used? Yes/No  
 Date: 6/27/04 MLRA: 047C Ecological Site: Upland Stony loam (047CY332UT) Black sagebrush, Bluebunch wheatgrass 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: Minor rill development in exposed areas. Rills present should be short on flatter slopes but may become longer (4 to 12 feet) as slope steepens. They should be somewhat widely spaced (3 to 6 feet), and follow the surface micro-features. Old rills should be weathered and muted in appearance. The presence of surface coarse fragments may reduce rill formation.

2. Presence of water flow patterns: Flow patterns wind around surface rock & perennial plant bases and show minor evidence of erosion. They are somewhat short and stable and there is only minor evidence of deposition. Evidence of flow will increase somewhat with slope.

3. Number and height of erosional pedestals or terracettes: Plants may show minor pedestaling on their down slope side. Terracettes should be few and stable.

4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bareground): 20 - 30%. (Soil surface is typically covered by 50% rock).

5. Number of gullies and erosion associated with gullies: Few. Gullies should show only minor signs of active erosion and should be mostly stabilized with vegetation. Gullies may show slightly more indication of erosion as slope steepens. The presence of surface rock may mask erosion indicators.

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 down slope redistribution caused by water. Some litter removal may occur in flow channels with deposition occurring at points of obstruction. Litter movement will increase with slope.

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): 10 to 80% of this site should have an erosion rating of 4 or 5. 20 to 30% may have a rating of 3 to 4. The average should be a 4. Litter accumulation and cryptogamic crusts reduce erosion. The presence of surface rock also reduces site erosion.

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 is typically 4 inches. Structure is fine granular. Color is typically brown (10YR5/3) Soils typically have a mollic epipedon that extends about 10 inches deep.

10. Effect of plant community composition (relative proportion of different functional

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groups) & spatial distribution on infiltration & runoff: When perennial grasses decrease, reducing ground cover and increasing bare ground, runoff will increase and infiltration will 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. Some soils have bedrock at approximately 10 to 30 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 40-70+ years. Perennial grasses, non-sprouting shrubs > sprouting shrubs, perennial & annual forbs > invaders such as Cheatgrass & Annual forbs. Dominants: Bluebunch wheatgrass & Black sagebrush; Sub-dominants: Prairie junegrass, Nevada bluegrass, Slender wild buckwheat. 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 (10-15%) and depth (.25-.50 inch).

15. Expected annual production (this is TOTAL above-ground production, not just forage production): 500 - 650 #/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": Green rabbitbrush, Sandberg bluegrass & Annual forbs.

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