

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: Mountain Windswept Ridge (Black sagebrush)

SITE NUMBER: 047CY475UT

MLRA: 047C

Original Site Description: Author: GWL, LLR

Date: 04/22/1992

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: 20-40 inches

Surface Textures: Clay Loams to Stony Loams

Surface Fragments(<=3" % cover, >3" % cover): 20-70%

Subsurface Textures:

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

Geologic Parent Materials: Residuum, Colluvium and Alluvium from Limestone

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): 0.06-0.10

Major Soils Associated With This Site:

Soil Survey Area: 047

Lap CNV-SiL, 8-25%

Tridell CBX-L, 30-60%

Deltree CBX-SCL, Dry, 4-30%

Shotnick Family CBX-L, 4-30%

Tridell CBX-L, 10-30%

Tridell STX-SL, 30-60%

Deltree CBX-SCL, Dry, 30-60%

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



**1. Potential Plant Community Description and Ecological Factors**

The general view of this site is bluebunch wheatgrass. The composition by air-dry weight is approximately 60 percent perennial grasses, 10 percent forbs, and 30 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		100	150	20	30
Muttongrass	POFE		50	75	10	15
Prairie junegrass	KOMA		25	50	5	10
Needleandthread	HECO26		15	25	3	5
Bulbous oniongrass	MEBU	1	5	10	1	2
Bottlebrush squirreltail	ELEL5	1	5	10	1	2
Indian ricegrass	ACHY	1	5	10	1	2
Letterman needlegrass	ACLE9	1	5	10	1	2
Western wheatgrass	PASM	1	5	10	1	2
Sandberg bluegrass	POSE	1	5	10	1	2
Other perennial grasses	PPGG	1	15	25	3	5
Other annual grasses	AAGG	1	15	25	3	5

Forbs, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Hooker's balsamroot	BAHO	2	5	15	1	3
Grassy rockgoldenrod	PEPU7	2	5	15	1	3
Common stonecrop	SELA	2	5	15	1	3
Blue flax	LIPE2	2	5	15	1	3
Cushion milkvetch	ASAR3	2	5	15	1	3
Tufted beardtongue	PECA4	2	5	15	1	3
Small leaf pussytoes	ANMI3	2	5	15	1	3
Scarlet globemallow	SPCO	2	5	15	1	3
Hoary tansyaster	MACA2	2	5	15	1	3
Stemless fournerve daisy	TEACA2	2	5	15	1	3
Stemless mock goldenweed	STACA	2	5	15	1	3
Carpet phlox	PHHO	2	5	15	1	3
Matted wild buckwheat	ERCA8	2	5	15	1	3
Other perennial forbs	PPFF	2	25	50	5	10
Other annual forbs	AAFF	2	25	50	5	10

Shrubs, %

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Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Black sagebrush	ARNO4		25	50	5	10
Fringed sagebrush	ARFR4		15	25	3	5
Utah serviceberry	AMUT		15	25	3	5
Spineless horsebrush	TECA4		15	25	3	5
Winterfat	KRLA2		15	25	3	5
Bitterbrush	PUTR2	3	5	15	1	3
Slender wild buckwheat	ERMI4	3	5	15	1	3
Green rubber rabbitbrush	CHNAG2	3	5	15	1	3
Granite pricklygilia	LEPU	3	5	15	1	3
Other shrubs	SSSS	3	15	25	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	600	700
Average Year	400	500
Unfavorable Year	200	300

### **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	15
Forbs (perennial)	5	1	5
Shrubs	20	1	10
Trees			
Cryptogams			

#### b. Other

Litter	
Coarse Fragments	
Bare Ground	

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

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As this site deteriorates due to grazing pressure, bluebunch wheatgrass, muttongrass, prairie junegrass and needleandthread decrease while letterman needlegrass, cushion milkvetch, tufted beardtongue, pussytoes, rock goldenrod, and horsebrush increase. Under sheep grazing bluebunch wheatgrass may increase. Under cattle grazing black sagebrush may increase.

### **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	0	5	20	50	5	10	5	5	0	0
Name	PNC											
ID Number	UT4751											
Description	Excellent Condition											

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Percent Growth	0	0	0	0	30	50	0	10	10	0	0	0
Name	Good Condition No.1											
ID Number	UT4752											
Description	needlegrass, bluegrass, black sagebrush											

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

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

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

047CY456UT

Mountain Stony Loam (Antelope bitterbrush)

047CY430UT

Mountain Loam (Mountain big 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

This site provides forage food for cattle and sheep in late 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 windswept site provides for a few species of wildlife.

b. List of Potential Species Present

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

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.

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#### **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: Lap Family CNV-SiL, 8-25% — loamy-skeletal, carbonatic Lithic Calciborolls

Type Location: NE ¼, SE ¼, SE ¼, Section 30, Township 1S, Range 24E

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					
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: 6/28/04 MLRA: 047C Ecological Site: Mountain Windswept Ridge (047CY475UT)  
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): 70 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) to dark grayish brown (10YR4/2). Soils typically have a mollic epipedon that extends about 7 to 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 20 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: Muttongrass, Prairie junegrass, Fringed sagebrush. 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): 400 - 500 #/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.