

RANGE SITE DESCRIPTION

for

ALKALINE SLOPES

Land Resource Area: Central Desertic Basins, Mountains,  
and Plateaus (34)  
Colorado and Green Rivers Plateaus (35)

A. PHYSICAL CHARACTERISTICS

1. Physiographic Features

This site occupies the gently sloping areas in and just above the flood plain. Slopes range up to 10%. Direction of slope is not a factor in site determination. Elevation of this site ranges from 4500 feet to 6500 feet above sea level.

2. Climatic Features

Annual precipitation is less than 12 inches, although the site subs during at least part of the growing season. About 50% of the precipitation comes in August and September. Optimum growing season for native plants is April and May. Winters are typically cold, averaging about 30° F. Temperatures average about 60° F, during the growing season.

3. Native (potential) Vegetation

The aspect of this site is a mixture of big sagebrush and greasewood. About 70% of the production is shrubs. Dominant grasses are galleta, sand dropseed, western wheatgrass, Indian ricegrass and bottlebrush squirreltail. Shrubs include big sagebrush, greasewood, and shadscale. Forbs include buckwheat, Indian paintbrush, Douglas rabbitbrush, winterfat, bud sage, and snakeweed.

This site is treeless. Optimum ground cover is 15 to 20%, with some large "slick" spots.

Invaders on this site are cheatgrass, Russian thistle, halogeton, and annual mustards.

Native (potential) Vegetation and Guide for Determining Range Condition.

Percentage composition by weight of the principal species may total as much as:

Grasses and grasslike:	
Galleta	10
Bottlebrush squirreltail	5
Western wheatgrass	5
Sand dropseed	5
Forbs:	
Green milly	5
Milkvetch	5
Others	5
Shrubs:	
Big sagebrush	20
Greasewood	20
Shadscale	15
Winterfat	10
Bud sage	5

4. Total Annual Production

Favorable years	700	Pounds	per	Acre	Air	Dry
Unfavorable years	400	"	"	"	"	"
Median years	550	"	"	"	"	"

5. Soils

a. Soils are deep, well drained, and are moderate to strongly alkaline. Surface layers are moderately coarse textured with moderate to slowly permeable subsoils. A large percentage of the moisture received is available to plants, but salinity and alkalinity limit kind and amount of vegetation. Soils are Typic Natrargids, fine-loamy, mixed mesic.

b. Soils in this site are:

Uffens sandy loam, 0 to 5 percent slopes

6. Rare, Threatened, or Endangered Plants and Animals

(To be added when known)

7. Location of Typical Example of the site

Intermediate terraces and alluvial fans along the Gunnison River and North Fork River in Delta County.

8. Field Offices In Colorado where the site occurs:

318 Delta  
343 Meeker  
345 Montrose

RANGE SITE DESCRIPTION - Colorado - 1974

B. Major Uses and Interpretations for the ALKALINE SLOPES Range Site

Use of Product	Value Rating			
	High	Medium	Low	Not Applicable
<b>1. <u>Grazing</u></b>				
<u>Cattle</u>			X	
<u>Sheep</u>		X		
<u>Horses</u>			X	
<b>2. <u>Wood Products</u></b>				X
<b>3. <u>Wildlife</u></b>				
<u>Antelope</u>		X		
<u>Bison</u>			X	
<u>Deer</u>			X	
<u>Elk</u>				X
<u>Cottontail</u>		X		
<u>Jackrabbit</u>		X		
<u>Upland game birds</u>		X		
<u>Waterfowl</u>				X
<b>4. <u>Watershed</u></b>			X	
<b>5. <u>Recreation and Natural Beauty</u></b>		X		

# Ecological Reference Sheet

MLRA: 34A Ecological Site: Alkaline Slopes

Date: 01/19/05 Author(s)/participant(s): C. Holcomb, L. Santana, F. Cummings, S. Jaouen

Contact for lead author: \_\_\_\_\_

This *must* be verified based on soils and climate (see Ecological Site Description). Current plant community *cannot* be used to identify the ecological site.

Composition (indicators 10 and 12) based on:  Annual Production,  Cover Produced During Current Year  Biomass

<p><b>Indicators.</b> 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 and natural disturbance regimes for <b>each</b> community within the reference state, when appropriate &amp; (3) cite data. Continue descriptions on separate sheet.</p>
<p><b>1. Number and extent of rills:</b> None</p>
<p><b>2. Presence of water flow patterns:</b> Flow paths short, disconnected, associated with steeper slopes.</p>
<p><b>3. Number and height of erosional pedestals or terracettes:</b> None to slight.</p>
<p><b>4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are <i>not</i> bare ground):</b> Expect 40-50% bare ground. Extended drought can cause bare ground to increase.</p>
<p><b>5. Number of gullies and erosion associated with gullies:</b> Some, depending on landscape position. Usually slumped with blunted edges. Gullies are typically small and wide spread unless flows have been concentrated from off-site drainage.</p>
<p><b>6. Extent of wind scoured, blowouts and/or depositional areas:</b> None</p>
<p><b>7. Amount of litter movement (describe size and distance expected to travel):</b> Litter movement associated with flow paths. Movement is typically short (1-2 feet), but can be significant under intense rainfall events.</p>
<p><b>8. Soil surface (top few mm) resistance to erosion (stability values are averages – most sites will show a range of values):</b> Stability class rating anticipated to be 3-5 in the interspaces at soil surface.</p>
<p><b>9. Soil surface structure and SOM (soil organic matter) content (include type and strength of structure, and A-horizon color and thickness):</b> Surface texture ranges from light silty clay loam to silty clay loam. Deep, well drained soils. The A-horizon ranges from 0-6 inches in depth, light gray to pale brown in color with a moderate medium platy parting to weak fine granular structure. Calcareous and moderately alkaline.</p>
<p><b>10. Effect of plant community composition (relative proportion of different functional groups) &amp; spatial distribution on infiltration &amp; runoff:</b> Diverse shrub and grass functional/structural groups and diverse root structure/patterns reduces raindrop impact slows overland flow providing increased time for infiltration to occur.</p>
<p><b>11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):</b> None</p>
<p><b>12. Functional/Structural Groups (list in order of descending dominance by above-ground production or live foliar cover (specify) using symbols: &gt;&gt;, &gt;, = to indicate much greater than, greater than, and equal to; place dominants, subdominants and “others” on separate lines):</b> Dominants: shrubs &gt; Sub-dominants: cool season rhizomatous grass &gt; cool season bunchgrass &gt; Other: forbs &gt; warm season bunchgrass</p>
<p><b>13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):</b> Typically minimal. Expect slight shrub and grass mortality/decadence during and following drought.</p>
<p><b>14. Average percent litter cover ( _____ %) and depth ( _____ inches).</b> 5-10% litter cover at 0.25 inch depth. Litter cover declines during and following extended drought.</p>
<p><b>15. Expected annual production (this is TOTAL above-ground production, not just forage production):</b> 400 lbs./ac. low precip years; 650 lbs./ac. average precip years; 800 lbs./ac. above average precip years. After extended drought or the first growing season following wildfire, production may be significantly reduced by 150 – 250 lbs./ac. or more.</p>
<p><b>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”:</b> Halogeton, Russian thistle, annual mustard and other noxious weeds.</p>
<p><b>17. Perennial plant reproductive capability:</b> The only limitations are weather-related, natural disease, inter-species competition, wildlife, and insects that may temporarily reduce reproductive capability.</p>

## Functional/Structural Groups Sheet

State: \_\_\_\_\_ Office: \_\_\_\_\_ Ecological Site: Alkaline Slopes Site ID: R034AY295CO

Observers: \_\_\_\_\_ Date: \_\_\_\_\_

Functional/Structural Groups			Species List for Functional/Structural Groups
Name	Potential <sup>1</sup>	Actual <sup>2</sup>	Plant Names
Shrubs	D		Big sagebrush, greasewood, winterfat, rabbitbrush, Mat saltbush, Gardner saltbush, cactus
Cool season rhizomatous grass	S		Thickspike wheatgrass, streambank wheatgrass, western wheatgrass
Cool season bunchgrass	S		Bluebunch wheatgrass, native bluegrasses, Indian ricegrass, bottlebrush squirreltail
Forbs	M		Buckwheat, scarlet globemallow, hollyleaf clover, asters, daisy, phlox, onion
Warm season bunch grass	T		Blue grama
Noxious Weeds			
Invasive Plants			
Biological Crust <sup>3</sup>	T		

Indicate whether each “structural/functional group” is a **Dominant (D)** (roughly 40-100 % composition), a **Sub-dominant (S)** (roughly 10-40% composition) a **Minor Component (M)** (roughly 2-5% composition), or a **Trace Component (T)** (<2% composition) based on weight or cover composition in the area of interest (e.g., “Actual<sup>2</sup>” column) relative to the “Potential<sup>2</sup>” column derived from information found in the ecological site/description and/or at the ecological reference area.

**Biological Crust<sup>3</sup>** dominance is evaluated solely on **cover** not composition by weight.