

RANGE SITE DESCRIPTION

for

DRY EXPOSURE

Land Resource Area: Southern Rocky Mountains (48)

A. PHYSICAL CHARACTERISTICS

1. Physiographic Features

Landscape characteristics are the steep slopes, ridges, hill tops and other exposed, tree-less areas seen from high mountain valleys and parks. Slopes vary from gentle to steep rolling with exposure or direction of slope not in any consistent direction.

2. Climatic Features

Although the average annual precipitation is in the 9 to 15 inch zone the effectiveness of the moisture is sharply reduced because of slopes, soils snow removal by wind and high evaporative rates. The frost-free period of this site is extremely short with frosts occurring frequently in the "growing season". The site can warm up rapidly, however, due to the drainage of cold air off the site and because of the favorable reception of sun energy. The almost incessant winds strongly influence the plant cover. They act to limit plant height growth to a few inches on most plants.

3. Native (potential) Vegetation

The "bald" appearance of this range site is because of the absence of large shrubs. Grasses and cushion type forbs characterize the aspect. Important grasses are bluebunch and streambank wheatgrass, needle-and-thread, Junegrass, Indian ricegrass and blue grama. Cushion type and mat forming forbs and shrubs include fringed sage, low rabbitbrush, buckwheat, daisy, phlox, globemallow, pussytoes, nailwort and loco are prominent.

Percent ground cover for the plant community is approximately 25%.

Few species invade this site and it is sparsely vegetated to nearly barren following prolonged overgrazing or other severe disturbances.

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

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

Bluebunch wheatgrass	15
Needle-and-thread	15
Junegrass	15
Indian ricegrass	10
Streambank wheatgrass	5
Thickspike wheatgrass	5
Blue grama	5
Winterfat	5
Fringed sage	5
Douglas rabbitbrush	5
Globemallow, buckwheat, hoods phlox	5
Pussytoes, mat loco, nailwort	5
Others (as listed above)	10

4. Total Annual Production

Favorable years	500 Pounds per Acre Air Dry
Unfavorable years	200 " " " " "
Median years	400 " " " " "

5. Soils

a. Gravelly sandy loams to gravelly loams; light colored. Soils have a droughty desert pavement. Fine to medium gravel to cobble on the surface. Topsoil is thin; subsoil is moderately to rapidly permeable. Low in fertility. All conditions contribute to restricted plant growth.

b. Soils in this site are:

Manburn gravelly coarse sandy loam

6. Rare, Threatened or Endangered Plants and Animals

(To be added when known)

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7. Location of Typical Example of the Site

8. Field Offices in Colorado where the site occurs:

330 Gunnison
337 Kremmling
358 Walden

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B. Major Uses and Interpretations for the DRY EXPOSURE Range Site.

Use of Product	Value Rating			
	High	Medium	Low	Not Applicable
1. <u>Grazing</u>				
<u>Cattle</u>			X	
<u>Sheep</u>			X	
<u>Horses</u>			X	
2. <u>Wood Products</u>				X
3. <u>Wildlife</u>				
<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
4. <u>Watershed</u>			X	
5. <u>Recreation and Natural Beauty</u>		X		

Ecological Reference Sheet

MLRA: 48A **Ecological Site:** Dry Exposure

Date: 01/19/05 **Author(s)/participant(s):** J. Murray, 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>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 and natural disturbance regimes for each community within the reference state, when appropriate & (3) cite data. Continue descriptions on separate sheet.</p>
<p>1. Number and extent of rills: None</p>
<p>2. Presence of water flow patterns: None to slight.</p>
<p>3. Number and height of erosional pedestals or terracettes: Slight. Pedestals may occur on steeper wind exposed slopes.</p>
<p>4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are <i>not</i> bare ground): Expect 10-20% bare ground. Exposed surface gravels, hard shale and sandstone are inherent to this site and are considered rock.</p>
<p>5. Number of gullies and erosion associated with gullies: None</p>
<p>6. Extent of wind scoured, blowouts and/or depositional areas: Wind scouring occurs regardless of season.</p>
<p>7. Amount of litter movement (describe size and distance expected to travel): Litter movement is extensive due to wind.</p>
<p>8. Soil surface (top few mm) resistance to erosion (stability values are averages – most sites will show a range of values): Stability class rating anticipated to be 1-3 in the interspaces at soil surface.</p>
<p>9. Soil surface structure and SOM (soil organic matter) content (include type and strength of structure, and A-horizon color and thickness): Surface texture ranges from gravely sandy loams to gravelly loam with fine to medium gravel on the surface. Soils are shallow. The A-horizon is 0-2 inches in depth and ranges from a grayish brown to very dark grayish brown color. Structure is weak medium granular.</p>
<p>10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: Plant community has minimal effect on infiltration and runoff.</p>
<p>11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): None</p>
<p>12. Functional/Structural Groups (list in order of descending dominance by above-ground production or live foliar cover (specify) using symbols: >>, >, = to indicate much greater than, greater than, and equal to; place dominants, subdominants and “others” on separate lines): Dominants: cool season bunchgrass > Sub-dominants: shrubs = forbs = cool season rhizomatous grasses > Other: warm season bunchgrass > sedges</p>
<p>13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): Typically minimal. Expect slight shrub and grass mortality/decadence due to wind desiccation</p>
<p>14. Average percent litter cover (_____ %) and depth (_____ inches). 0-5% litter cover at < 0.25 inch depth.</p>
<p>15. Expected annual production (this is TOTAL above-ground production, not just forage production): 200 lbs./ac. low precip years; 400 lbs./ac. average precip years; 500 lbs./ac. above average precip years. After extended drought or the first growing season following wildfire, production may be significantly reduced by 100 – 200 lbs./ac. or more.</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”: None</p>
<p>17. Perennial plant reproductive capability: The only limitations are weather-related (drought and wind).</p>

Functional/Structural Groups Sheet

State: _____ Office: _____ Ecological Site: Dry Exposure Site ID: R048AY235CO

Observers: _____ Date: _____

Functional/Structural Groups			Species List for Functional/Structural Groups
Name	Potential ¹	Actual ²	Plant Names
Cool season bunch grasses	D		Bluebunch wheatgrass, needleandthread, native bluegrasses, Indian ricegrass, prairie junegrass, bottlebrush squirreltail
Shrubs	S		Black sagebrush, winterfat, fringed sagebrush
Forbs	S		Buckwheat, Indian paintbrush, scarlet globemallow, scarlet gilia, phlox, mat loco, pussytoes, nailwort, mat penstemon
Cool season rhizomatous grasses	S		Thickspike wheatgrass, streambank wheatgrass
Warm season bunch grass	M		Blue grama
Sedges	T		Carex species
Noxious Weeds			
Invasive Plants			
Biological Crust ³	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., “Actual²” column) relative to the “Potential²” column derived from information found in the ecological site/description and/or at the ecological reference area.

Biological Crust³ dominance is evaluated solely on **cover** not composition by weight.