

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service, Colorado

Technical Guide
Section II E

RANGE SITE NO. 228

Field Office

August 1975

RANGE SITE DESCRIPTION

for

MOUNTAIN LOAM

Land Resource Area: Southern Rocky Mountains (48)

A. PHYSICAL CHARACTERISTICS

1. Physiographic Features

Topography is mainly alluvial-colluvial slopes, terraces, fans or valley positions. Slopes average between 5 to 10% but can reach 30 to 40%. Elevation ranges from 7000 feet to 9500 feet.

2. Climatic Features

Average annual precipitation is 15 to 20 inches, of which about 50% falls as snow.

Optimum growing season for native plants is early spring through summer. The frost-free period ranges from 30 to 100 days. Mean annual temperature ranges from 70°'s to (-) 40°'s F. This site normally has deep snow cover through the winter.

3. Native (potential) Vegetation

Grass, in association with minor amounts of woody plants such as sagebrush and snowberry and several forbs, accounts for most of the vegetative cover. This site is treeless; however, trees are often in the general vicinity. Dominant grasses are Idaho and/or Arizona fescue, slender wheatgrass, bearded wheatgrass, native bluegrasses, nodding brome, mountain brome, Letterman's needlegrass and pine needlegrass. Mountain muhly and Parry oatgrass are important in some locations. Lupine, geranium, groundsel and bluebells are the principal forbs. With range depletion, sagebrush often becomes dominant.

Optimum ground cover is 35%. The following species are most likely to invade this site: cheatgrass, slimstem muhly, three-awn, blue grama, rubberweed, broom snakeweed, tall rabbitbrush, phlox, and nailwort.

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

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

Idaho and/or Arizona fescue	40
Bearded wheatgrass	30
Needle grasses	30
Slender wheatgrass	20
Native bunch bluegrass	20
Western wheatgrass	15
Mountain muhly	15
Parry oatgrass	15
Mountain brome	10
Nodding brome	10
Sandberg bluegrass	10
Sheep fescue	10
Big sagebrush	10
Thurber fescue	7
Squirretail	7
Eriogonum	5
Balsamroot	5
Fringed sage	5
Low rabbitbrush	5
Bitterbrush	5
Snowberry	5
Serviceberry	5

4. Total Annual Production

Favorable years	1800	Pounds per Acre	Air	Dry
Unfavorable years	1200	"	"	"
Median years	1500	"	"	"

5. Soils

- a. Soils are fairly deep, have a good water holding capacity, are moderately fine to moderately coarse-textured and many of them are somewhat gravelly to stony. A large percent of the soil moisture is available for plant growth.

b. Soils of this site are:

Blevinton sandy loam
Buffmeyer sandy loam
Carpening fine sandy loam
Castner fine sandy loam
Duffson loam
Gelkie sandy loam
Kezor gravelly sandy loam
Leavitt loam
Lucky gravelly sandy loam
Marop stony loam
Miracle fine sandy loam
Mughouse stony loam
Owen Creek sandy loam
Parlin channery loam
Splitro loam

6. Rare, Threatened or Endangered Plants and Animals

(To be added when known)

7. Location of Typical Example of the Site

8. Field Offices in Colorado where the site occurs:

302 Alamosa
309 Center
314 Cortez
315 Craig
318 Delta
320 Durango
321 Eagle
323 Fort Collins
326 Glenwood Springs
328 Grand Junction
330 Gunnison
337 Kremmling
343 Meeker
345 Montrose
346 Norwood
347 Pagosa Springs
353 Steamboat Springs
358 Walden
363 San Luis

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B. Major Uses and Interpretations for the MOUNTAIN LOAM Range Site

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

Ecological Reference Sheet

MLRA: 48A **Ecological Site:** Mountain Loam

Date: 12/8/04

P. Billig, S. Jaouen

Author(s)/participant(s): J. Murray, C. Holcomb, L. Santana, F. Cummings, A. Jones,

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

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.

1. Number and extent of rills: None to slight on slopes less than 10%. Rills can be more defined on slopes ranging from 15-30%, especially following intense storms.

2. Presence of water flow patterns: Slight. Flow paths becoming more apparent on slopes exceeding 15%.

3. Number and height of erosional pedestals or terracettes: None to slight. Pedestals may occur on steeper slopes.

4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground): Expect 10-15% bare ground. Extended drought can cause bare ground to increase.

5. Number of gullies and erosion associated with gullies: Rare

6. Extent of wind scoured, blowouts and/or depositional areas: Wind scouring/deposits are possible on coarse textured soils.

7. Amount of litter movement (describe size and distance expected to travel): Litter movement associated with flow paths. Movement expected to be short and minimal.

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 3-5 in the interspaces at soil surface.

9. Soil surface structure and SOM (soil organic matter) content (include type and strength of structure, and A-horizon color and thickness): Average SOM is 3-5%. Soils are typically deep to moderately deep and well drained.

10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: Diverse grass, forb, shrub canopy and root structure reduces raindrop impact and slows overland flow providing increased time for infiltration to occur. Extended drought reduces cool season bunchgrasses causing decreased infiltration and increased runoff following intense storms.

11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): None

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: cool season rhizomatous grass = shrubs (sprouters) > shrub (non-sprouters) = forbs >

Other: sedges

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 during and following drought or use exclusion.

14. Average percent litter cover (_____ %) and depth (_____ inches). 40-60% litter cover at 0.25 inch depth. Litter cover declines during and following extended drought.

15. Expected annual production (this is TOTAL above-ground production, not just forage production):

1200 lbs./ac. low precip years; 1500 lbs./ac. average precip years; 1800 lbs./ac. above average precip years. After extended drought or the first growing season following wildfire, production may be significantly reduced by 600 – 800 lbs./ac. or more.

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”: Kentucky bluegrass, cheatgrass and noxious weeds.

17. Perennial plant reproductive capability: The only limitations are weather-related, wildfire, natural disease, inter-species competition, wildlife, and insects that may temporarily reduce reproductive capability.

Functional/Structural Groups Sheet

State: _____ Office: _____

Ecological Site: Mountain Loam

Site ID: R048AY228CO

Observers: _____

Date: _____

Functional/Structural Groups			Species List for Functional/Structural Groups
Name	Potential ¹	Actual ²	Plant Names
Cool season bunchgrass	D		Idaho and/or Arizona fescue, bluebunch wheatgrass, needlegrasses, native bluegrasses, nodding brome, mountain brome
Cool season rhizomatous grass	S		Western wheatgrass
Shrubs – sprouters	S		Rabbitbrush, snowberry, serviceberry, bitterbrush, Gambel oak
Shrubs – non-sprouters	S		Big sagebrush, black sagebrush
Forbs	S		Western yarrow, lupine, bluebells, buckwheat, Indian paintbrush, balsamroot, cinquefoil, scarlet gilia, asters, daisy
Sedges	M		Elk sedge, threadleaf sedge
Noxious Weeds			
Invasive Plants			
Biological Crust ³			

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.