

## **Ecological site R048AY231CO Dry Mountain Loam**

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### **Rangeland health reference sheet**

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

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Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

### **Indicators**

1. **Number and extent of rills:** Slight on slopes less than 10%. Rills can be more defined on slopes ranging from 15-25%, especially following intense storms.  

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

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3. **Number and height of erosional pedestals or terracettes:** Slight. Pedestals may occur on steeper slopes.  

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Expect 20-30% bare ground. Extended drought can cause bare ground to increase.  

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5. **Number of gullies and erosion associated with gullies:** Occasionally, depending on soil texture, slope steepness and length.  

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6. **Extent of wind scoured, blowouts and/or depositional areas:** Some wind scouring is possible where surface

roughness (rock and/or fragments) is lacking.

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

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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 3-4 in the interspaces at soil surface.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Surface texture ranges from a gritty loam to sand loam with a fine granular structure. Depth of the A-horizon is typically 0-4 inches deep, well drained and pale brown in color.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Grasses, forbs, shrub canopy, basal cover and inherent interspaces between plants allow for some overland flow, providing a lost opportunity for infiltration to occur.

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

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12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

Dominant: Dominants: cool season bunchgrass =

Sub-dominant: shrub (non-sprouter) = forbs > cool season rhizomatous grasses = shrub (sprouter) >

Other: sedges > warm season bunchgrass

Additional:

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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 lack of disturbance.

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14. **Average percent litter cover (%) and depth ( in):** 30-50% litter cover at 0.25 inch depth. Litter cover declines during and following extended drought.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 500 lbs./ac. low precip years; 750 lbs./ac. average precip years; 1000 lbs./ac. above average precip years. After extended drought or the first growing season following wildfire, production may be significantly reduced by 250 – 500 lbs./ac. or more.

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16. **Potential invasive (including noxious) species (native and non-native).** List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site: Cheatgrass and noxious weeds.
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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.
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