

Ecological site R025XY030ID MOUNTAIN BRUSH 18-22

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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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Approved by	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** rills rarely occur on this site. If rills are present they are most likely to occur on slopes greater than 15 percent and immediately following wildfire. Rills are most likely to occur on soils with surface textures of silt loam.

2. **Presence of water flow patterns:** water flow patterns rarely occur on this site. When they occur they are most likely to occur on slopes greater than 15 percent. When they occur they are short, disrupted by cool season perennial grasses and tall shrubs and are not extensive.

3. **Number and height of erosional pedestals or terracettes:** both are rare on this site. In areas where flow patterns and /or rills are present, a few pedestals may be expected.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** On sites in mid-seral status, bare ground may range from 15-25 percent.

5. **Number of gullies and erosion associated with gullies:** do not occur on this site.

6. **Extent of wind scoured, blowouts and/or depositional areas:** usually does not occur.

7. **Amount of litter movement (describe size and distance expected to travel):** fine litter in the interspaces may move up to 2 feet following a significant run-off event. Terracettes and bunchgrass can trap fine litter. Coarse litter generally does not move.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** values should range from 4 to 6.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The A or A1 horizon is typically 4 to 7 inches thick. Structure ranges from weak thin platy to moderate medium subangular blocky. Soil organic matter (SOM) needs to be determined.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** bunchgrasses, especially deep-rooted perennials, slow down run-off and increase infiltration. Shrubs accumulate snow in the interspaces. .

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** not present.

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: tall shrubs

Sub-dominant: perennial forbs

Other: grasses

Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** snowbrush will become decadent in the absence of fire and when shaded by taller shrubs and trees, when present. Grass and forb mortality will occur as tall shrubs such as serviceberry, chokecherry, aspen and bittercherry increase.

14. **Average percent litter cover (%) and depth (in):** annual litter cover in the interspaces will be 20-30 percent to a depth

of <0.2. Under the mature shrubs litter is greater than 0.5 inches. Fine litter can accumulate on the terracettes.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 1500 lbs. per acre in a year with normal precipitation and temperatures. Perennial grasses produce 20-30 percent of the total, forbs 15-25 percent, and shrubs 50-60 percent.
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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:** includes Kentucky bluegrass, western juniper, spotted and diffuse knapweed, leafy spurge, and Canada thistle.
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17. **Perennial plant reproductive capability:** all functional groups have the potential to reproduce in most years.
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