

Ecological site R058AE011MT Saline Upland (SU) RRU 58A-E 10-14" p.z.

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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.

Author(s)/participant(s)	T. DeCock; R Kilian; K Kilwine
Contact for lead author	Tammy DeCock
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Approved by	Jon Siddoway
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- 1. Number and extent of rills:** Rills should not be present.

- 2. Presence of water flow patterns:** Water flow paths are broken and irregular in appearance, discontinuous, with numerous debris dams.

- 3. Number and height of erosional pedestals or terracettes:** Pedestals up to 0.5 inch high are common. Some terracettes.

- 4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground is < 60%. Bare ground will occur in large 6 to 12 inches wide and irregularly shaped.

- 5. Number of gullies and erosion associated with gullies:** Active gullies should not be present. Existing gullies should be "healed" with a good vegetative cover.

- 6. Extent of wind scoured, blowouts and/or depositional areas:** None.

7. **Amount of litter movement (describe size and distance expected to travel):** Plant litter movement of fine materials is expected for short distances (5-6 inches)
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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):** Surface Soil Aggregate Stability under plant canopy should typically be 3. Surface Soil Aggregate Stability not under plant canopy should typically be 2 or slightly less.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Use soil series description.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Sparse plant canopy (45% maximum), slow to moderately slow infiltration rates, and the high amount of bare ground contribute to a naturally high runoff rate even in Reference condition.
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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):** No compaction layer would be expected; light soil surface crusting is typical.
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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: Shrubs and half shrubs = Warm season, mid-stature, bunch grasses
- Sub-dominant: Cool season, mid-stature, rhizomatous grasses = Cool season, mid-stature, bunch grasses > Warm season, mid-stature, rhizomatous grasses
- Other: Minor components: Cool season, short-stature, bunch grasses and sedges = forbs = Warm season, short-stature, rhizomatous grasses and sedges
- Additional: (Blue grama should be grouped with warm season, short-stature, rhizomatous grasses due to its growth form)
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Some plant mortality and decadence (10 to 15%) is expected on this site.
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14. **Average percent litter cover (%) and depth (in):** Litter cover is in contact with soil surface.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 725 to 800 #/acre (13 to 14 inch precip. Zone) 200 to 650 #/ac (10 to 12 inch precip. Zone).
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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: Halogeton, Leafy spurge, knapweeds, whitetop, Dalmatian toadflax, yellow toadflax, St. Johnswort, perennial pepperweed. Kentucky bluegrass and smooth brome can be invasive on the eastern boarder of Montana for these MLRAs.

17. **Perennial plant reproductive capability:** All species are capable of reproducing.
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