

Ecological site R058AC616MT Thin Breaks (TB) RRU 58A-C 11-14" 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.

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Contact for lead author	
Date	04/23/2005
Approved by	Kirt Walstad
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- Number and extent of rills:** Because all slopes on this site exceed 25% and bare ground is 30-60%, rills are present. They are generally < 3.0 inches deep, < 4.0 inches wide, and < 20.0 feet long.

- Presence of water flow patterns:** Will generally be rare on this site, but with the steeper slopes (>35%), and 15-30% bare ground, there may be areas which show accumulations of litter due to water movement, especially after severe storms.

- Number and height of erosional pedestals or terracettes:** Wind and water erosion occurs, and there may be some plants with pedestals up to 0.5 inches in height. Terracettes are generally not present, but where they do occur, they are a natural geological feature.

- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground is between 30-60%.

- Number of gullies and erosion associated with gullies:** Gully erosion is possible, but has not been quantified for this site.

6. **Extent of wind scoured, blowouts and/or depositional areas:** Wind scoured areas are uncommon, but may be evident.
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7. **Amount of litter movement (describe size and distance expected to travel):** Litter movement will be minimal on the gradual slopes, however on the steeper slopes there will be evidence of litter movement (i.e. debris dams) which may travel greater than 10 feet on steeper slopes.
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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 values of 2-3 in plant interspaces. Stability values of 3-4 under plant canopies and at plant bases.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Organic matter in the A-horizon is between 0.5–1.5%. A-horizon is 1-2 inches thick. Surface structure should be moderate or strong granular to subangular blocky.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Bunchgrasses and shrubs/trees dominate this site. Perennial herbaceous plants are spaced 2-4 feet apart. Shrub species are spaced 4-16 feet apart. Trees are sparse. Areas of bare soil will have a higher potential for runoff and poorer infiltration rates. Larger areas with exposed rock will increase runoff on this site and may induce erosion below those areas.
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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: cool season, mid-height, native perennial bunchgrasses >> native shrubs > warm season, short-height perennial grasses > native perennial and annual forbs.
- Sub-dominant:
- Other:
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Plant mortality is low; decadence is minimal except in prolonged periods of drought.
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14. **Average percent litter cover (%) and depth (in):**
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-**

production): 570 – 810 #/acre.

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: big sagebrush, silver sagebrush, rubber rabbitbrush, Rocky Mountain juniper, threadleaf sedge, blue grama, broom snakeweed, fringed sagewort, plains pricklypear, cheatgrass, Japanese brome, red threeawn.
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17. **Perennial plant reproductive capability:** All species are capable of reproducing.
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