

Ecological site R058AC049MT
**Silty-Steep (SiStp) RRU 58A-C 11-14" p.z. (combined R058AC046MT,
R058AC047MT & R058AC048MT into this site)**

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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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Date	04/06/2005
Approved by	Kirt Walstad
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rills are rare on slopes between 15–35% that are well-covered (90-95% cover) with live vegetation and litter. On slopes over 35%, plant cover, basal area and litter are generally reduced, and narrow rills approximately 5-10 feet in length may be apparent.

2. **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.

3. **Number and height of erosional pedestals or terracettes:** Wind and water erosion is rare on this site, but with the steeper slopes (>35%) there may be some plants with pedestals up to 0.5 inch in height.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground should not exceed 15% where slopes are approx 15-35%, and should not exceed 30% where slopes are over 35% slope when in the reference state.

5. **Number of gullies and erosion associated with gullies:** Gully erosion is not evident in the reference state.

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6. **Extent of wind scoured, blowouts and/or depositional areas:** These are not evident in the reference state.
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7. **Amount of litter movement (describe size and distance expected to travel):** Because there is little bare ground, litter movement will be minimal at most. Because the site is dominated by the taller bunchgrasses, litter size will reflect the height and diameter of the reproductive culms and leaves of these grasses as well as the lesser dominant mid-size grasses.
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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 4-5 in plant interspaces. Stability values of 5-6 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 0.5–2.0%. A-horizon is 2-4 inches thick in the reference state. Surface structure should be moderate or strong granular.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Deep-rooted native perennial grasses optimize infiltration and runoff. Grasses should be spaced approximately 1-3 feet apart in the reference state.
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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 present in reference state.
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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 > warm season, mid- and short- height native perennial bunchgrasses >> native shrubs = 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 very 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):** 1100 -1400 #/acre.

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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: plains pricklypear, broom snakeweed, cheatgrass, Japanese brome, Wyoming big sagebrush, fringed sagewort, cudweed sagewort, blue grama (in excess of 300 pounds/acre, or canopy cover value >25%).
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17. **Perennial plant reproductive capability:** This is not impaired in the reference state.
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