Ecological site R058AC040MT
Silty (Si) 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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Approved by	Kirt Walstad
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rills should not be evident in the reference state.

2. **Presence of water flow patterns:** Water flow patterns are generally not evident in the reference state. Following heavy thunderstorms, short (less than 2 feet), sinuous, discontinuous flow patterns may be apparent.

3. **Number and height of erosional pedestals or terracettes:** These should not be evident in the reference state.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground is less than 20% in the reference state. In HCPC, bare ground should not exceed 12%.

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

6. **Extent of wind scoured, blowouts and/or depositional areas:** These are not evident in the reference state.

7. **Amount of litter movement (describe size and distance expected to travel):** Litter movement varies by size and

depth of litter. In the reference state, litter should be coarse, anywhere from 1.5 inches up to 8 inches in length, and will not move more than a couple of inches from where it originated.

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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):** The soil surface is moderate granular. Organic matter is 2-5%. The A-horizon is 4 to 8 inches thick.

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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 1-2 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 > 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):** 1325 – 1850 #/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.