Ecological site R010XY006ID
Churning Clay 8-16 PZ ARTRX/PSSPS

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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:** Do not occur on this site due to the relatively flat slopes. If rills do develop, they are broken up by the churning action of the soil.

2. **Presence of water flow patterns:** Do not occur on this site due to the relatively flat slopes. If water flow patterns do develop, they are broken up by the churning action of the soil.

3. **Number and height of erosional pedestals or terracettes:** Are rare on this site. In areas of greater than 25% slopes where flow patterns and/or rills are present, a few pedestals and terracettes may be expected.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Ranges from 40-60 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:** Does not occur.

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7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter in the interspaces may move up to 3 feet or further following a significant run-off event. Cracks in the soil surface that occur during the summer and fall trap litter. Coarse litter generally does not move.

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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):** Values should range from 4 to 6 but needs to be tested.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The A or A1 horizon is typically 1 to 6 inches thick. Structure ranges from weak thin platy to strong medium granular. Soil organic matter (SOM) ranges from 0.5 to 5 percent.

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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 run-off and increase infiltration. Shrubs accumulate snow in the interspaces.

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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):** Does not occur.

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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 deep-rooted perennial bunchgrasses.

    Sub-dominant: Tall shrubs> perennial forbs> shallow rooted grasses.

    Other:

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Foothills sagebrush becomes decadent in the absence of fire and ungulate grazing. Mortality of grasses and forbs occurs from the shrinking and swelling of the soil.

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14. **Average percent litter cover (%) and depth (in):** Annual litter cover in the interspaces will be 5-10 percent to a depth of <0.1 inches. Under the mature shrubs litter is greater than 0.5 inches. Fine litter falls or blows into the surface cracks in the soil.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 500 lbs. per acre in a year with normal precipitation and temperatures. Perennial grasses produce 40-50

percent of the total, forbs 20-30 percent, and shrubs 20-30 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:** Medusahead is the most troublesome invasive plant on this site. Other ones that may be found on the site include cheatgrass, bulbous bluegrass, rush skeletonweed, scotch thistle, spotted and diffuse knapweed.

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17. **Perennial plant reproductive capability:** All functional groups have the potential to reproduce in normal years.