Ecological site R011XA003ID
Shallow Loam 8-12 PZ ARTRT/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:** Rills: rarely occur on this site.

2. **Presence of water flow patterns:** Water-Flow Patterns: rarely occur on this site. When they do occur, they are short, disrupted by cool season perennial grasses and tall shrubs and are not extensive.

3. **Number and height of erosional pedestals or terracettes:** Pedestals and/or Terracettes: are rare on this site. In areas 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):** Bare Ground: no data on bare ground but is expected to range from 30-40 percent.

5. **Number of gullies and erosion associated with gullies:** Gullies: do not occur on this site.

6. **Extent of wind scoured, blowouts and/or depositional areas:** Wind-Scoured, Blowouts, and/or Deposition Areas:

usually not present. The light textured soils in some areas can blow following a fire and evidence may be found in mounded soil deposition in the crowns of bunchgrass.

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7. **Amount of litter movement (describe size and distance expected to travel):** Litter Movement: fine litter in the interspaces may move up to 2 feet or further following a significant run-off event. 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):** Soil Surface Resistance to Erosion: 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):** Soil Surface Loss or Degradation: The A or A1 horizon is typically 1 to 4 inches thick.
Structure ranges from weak very fine or fine granular. Soil organic matter (SOM) is 0.5 to 3 percent.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Plant Community Composition and Distribution Relative to Infiltration: bunchgrasses, especially deep-rooted perennials, slow run-off and increase infiltration. Shrubs accumulate snow in the interspaces. Terracettes provide a favorable micro-site for vegetation establishment, which further increases infiltration.

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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):** Compaction Layer: not present.

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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: Functional/Structural Groups: cool season deep-rooted perennial bunchgrasses >>tall shrubs> perennial forbs> shallow rooted grasses.

    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/Decadence: basin big sagebrush will become decadent in the absence of fire and ungulate grazing. Grass and forb mortality will occur as tall shrubs increase.

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14. **Average percent litter cover (%) and depth (in):** Litter Amount: annual litter cover in the interspaces will be 5-10 percent to a depth of

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-**

production): Annual Production: is 650 lbs. per acre in a year with normal precipitation and temperatures. Perennial grasses produce 40-60 percent of the total, forbs 10-20 percent, and shrubs 25-40 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:** Invasive Plants: cheatgrass, clasping pepperweed, beggars ticks, tansymustard, Jim Hill tumblemustard, yellow salsify, burr buttercup, medusahead, Russian thistle, annual kochia, and halogeton. Bulbous bluegrass can invade at lower elevations.

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17. **Perennial plant reproductive capability:** Reproductive Capability of Perennial Plants: all functional groups have the potential to reproduce in normal years.