Ecological site R013XY006ID
Sandy Loam 16-22 PZ ARTRV/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: are rare on this site. If rills are present they are likely to occur immediately following wildfire and a high intensity convection storm. Sandy surface texture will limit rill development.

2. **Presence of water flow patterns:** Water-Flow Patterns: are rare on this site. They may occur immediately following a high intensity convention storm. If they occur, they are short and disrupted by cool season grasses and tall shrubs and are not extensive. Water infiltration is generally rapid for the site.

3. **Number and height of erosional pedestals or terracettes:** Pedestals and/or Terracettes: are rare on this site.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground: data is not available for this site. On sites in mid-seral status, bare ground is expected to be about 50-60%. This site is naturally unstable due to sandy surface textures particularly following a wildfire.

5. **Number of gullies and erosion associated with gullies:** Gullies: none

6. **Extent of wind scoured, blowouts and/or depositional areas:** Wind-Scoured, Blowouts, and/or Deposition Areas: wind-scour and deposition areas can occur on this site, particularly following a wildfire. Old depositions will be noticeable in the crowns of bunchgrasses and at the base of shrubs.

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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 following a significant run-off event or further with wind. 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 average 1 to 2but needs to be tested. Organic carbon content needs to be determined.

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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 3 to 22 inches thick. Structure ranges from weak and moderate fine granular to weak medium and coarse subangular blocky. Soil organic matter (SOM) ranges from 1 to 4 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. Tall 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):** 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 bunchgrasses.

    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: mountain big sagebrush and antelope bitterbrush 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: additional litter cover data is needed but is expected

to be 20-25 percent to a depth of 0.1 inches. Under mature shrubs litter is >0.5 inches deep and is 90-100 percent ground cover.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Annual Production: is 1400 pounds per acre (1568 kilograms per hectare) in a year with normal temperatures and precipitation. Perennial grasses produce 50-60 percent of the total production, forbs 15-20 percent and shrubs 15-25 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: includes Kentucky bluegrass, whitetop, rush skeletonweed, musk thistle, Canada thistle, scotch thistle, leafy spurge, and diffuse and spotted knapweed.

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