Ecological site R012XY017ID
Shallow Fractured South 8-12 PZ ARTRW8/PSSPS-LESAS2

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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.

Author(s)/participant(s)	
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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. If rills are present, they are most likely to occur after a hard rain for several continuous days, rain on frozen ground and immediately following wildfire.

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2. **Presence of water flow patterns:** Water flow patterns rarely occur on this site except following a hard rain over several continuous days or after a rain on frozen ground event. When they occur they are short, disrupted by cool season perennial grasses, medium shrubs, surface gravel and are not extensive.

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3. **Number and height of erosional pedestals or terracettes:** Pedestals are rare on this site. Do not misinterpret frost heaving for pedestals. Terracettes are rare.

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Data not available. On sites in mid-seral status, bare ground may range from 70-80 percent. ADDITIONAL DATA IS NEEDED.

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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 depositional areas usually does not occur. Some wind erosion may occur immediately following a wildfire on soils that have fine textured surface soils.

7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter in the interspaces may move less than 2 feet following a significant run-off event. Coarse litter generally does not move.

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 need to be tested.

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 7 inches thick. Structure ranges from weak and moderate very fine and fine granular to weak and moderate thin and thick platy to weak fine subangular blocky. Soil organic matter (SOM) ranges from 1 to 3 percent.

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

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** Compaction layer is not present.

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 perennial bunchgrasses >>

    Sub-dominant: Medium shrubs>perennial forbs.

    Other:

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Wyoming big sagebrush will become decadent in the absence of browsing or fire. Grass and forb mortality will occur as medium shrubs increase.

14. **Average percent litter cover (%) and depth (in):** Annual litter cover in the interspaces will be 3-10 percent to a depth of <0.1 inch. Under the mature shrubs, litter is greater than 0.5 inches.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Annual production is 325 lbs. per acre in a year with normal precipitation and temperatures. Perennial grasses produce 50-70 percent of the total, forbs 10-20 percent and shrubs 20-30 percent.

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 species include cheatgrass, halogeton, tansy mustard, rush skeletonweed, scotch thistle, spotted and diffuse knapweed.

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