USDA Natural Resources
Conservation Service

Ecological site R013XY058ID
Silty 8-12 PZ KRLA2/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.

2. **Presence of water flow patterns:** water-flow patterns are rare.

3. **Number and height of erosional pedestals or terracettes:** both 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):** may range from 10 to 20 percent but data needs to be collected.

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:** usually not present, but some soil movement may

occur immediately following a wildfire.

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7. **Amount of litter movement (describe size and distance expected to travel):** fine litter in the interspaces typically moves 1 to 2 feet. 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):** Structure ranges from weak fine and medium granular to weak fine subangular blocky. The surface color is generally dark grayish brown to black when moist. Soil organic matter (SOM) needs to be determined.

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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 runoff and increase 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):** is 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: cool season deep-rooted perennial bunchgrasses

    Sub-dominant: medium shrubs perennial forbs

    Other: shallow rooted bunchgrasses

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** very little mortality or decadence is expected on this site. Mortality of shallow rooted grasses may occur due to extended periods of drought.

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14. **Average percent litter cover (%) and depth (in):** additional data is needed but is expected to be low and at a shallow depth.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** is 600 pounds per acre (672 Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses produce 40-60 percent of the total production, forbs 20-30 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:** includes cheatgrass, clasping pepperweed, beggar ticks, tansymustard, Jim Hill tumblemustard, yellow salsify, and halogeton.

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