

Ecological site R025XY016ID SHALLOW CALCAREOUS LOAM 10-16

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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

- Number and extent of rills:** Rills rarely occur on this site due to the extremely cobbly to very stony surface soils.
- Presence of water flow patterns:** Water-flow patterns rarely occur on this site. When they do occur, they are short and disrupted by cool season grasses, shrubs and surface stones. They are not extensive.
- Number and height of erosional pedestals or terracettes:** Pedestals and/or erracettes can occur on the site especially where flow patterns are present and on slopes greater than 20%. Do not mistake frost heave for pedestals.
- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Ranges from 20-40 percent.
- Number of gullies and erosion associated with gullies:** None.
- Extent of wind scoured, blowouts and/or depositional areas:** Wind-scoured, blowouts, and/or deposition Areas are

usually not present in the HCPC.

7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter in the interspaces typically moves up to three 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 4-6 .
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The surface horizon is typically 2 to 7 inches thick. Structure typically includes weak to moderate thick platy, weak very fine to fine or strong fine granular. Soil organic matter (SOM) ranges from 1 to 2 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 runoff and increase infiltration. Medium height shrubs accumulate some 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 is not present. Do not mistake an increase in clay content of the subsoil for a compaction layer.
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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>> medium shrubs
- Sub-dominant: Perennial forbs>shallow-rooted bunchgrasses
- Other:
- 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):** Annual Production is 500 pounds per acre (392 Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses produce 40-60 percent of the total production, forbs 10-20 percent and shrubs 30-40

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 Plants include cheatgrass and bulbous bluegrass at lower elevations. Medusahead may invade the site when surface soil has high clay content.
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17. **Perennial plant reproductive capability:** All functional groups have the potential to reproduce in normal and favorable years.
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