

Ecological site R009XY001ID Shallow Stony Loam 16-22 PZ

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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. They are most likely to occur immediately following a wildfire. Cobbles and stones on the surface reduce erosion.

2. **Presence of water flow patterns:** Water-flow patterns can occur on this site. When they do occur, they are short, disrupted by cool season perennial grasses, cobbles and stones and are not extensive.

3. **Number and height of erosional pedestals or terracettes:** Both can occur on this site. They are not extensive. Do not mistake frost heaves for pedestals.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground ranges from 25-40 percent but additional data is needed.

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:** Blowouts and depositional areas are usually not present. Immediately following wildfire some soil movement may occur on lighter textured soils.
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7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter in the interspaces may move up to 2-3 feet or further following a significant run-off event. High winds can also move fine litter. 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 .
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** No data.
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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 run-off and increase infiltration. Terracettes provide a favorable micro-site for vegetative 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):** 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: When soils are 15-20" deep:
cool season bunchgrasses
When soils are 10-15" deep:
shallow-rooted bunchgrasses
- Sub-dominant: When soils are 15-20" deep:
perennial forbs
When soils are 10-15" deep:
forbs
- Other: When soils are 15-20" deep:
shrubs
When soils are 10-15" deep:
shrubs
- Additional: When soils are 15-20" deep:
shallow-rooted bunchgrasses
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Very little decadence is expected to occur on this site. Mortality can occur following extended drought.
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14. **Average percent litter cover (%) and depth (in):** annual litter cover in the interspaces will be 5-10 percent to a depth of <0.1ft. Fine litter can accumulate on the terracettes.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Is 650 lbs. per acre in a year with normal precipitation and temperatures. Perennial grasses produce 70-80 percent of the total and forbs produce 20-30 percent. Shrubs, when present, produce 0-5 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, soft chess, ventenata, bulbous bluegrass, Canadian thistle, tarweed, curlycup gumweed, spotted and diffuse knapweed, and yellow starthistle.

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