

Ecological site R010XA001ID Clayey 12-16 PZ ARARL/FEID

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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	Kirt Walstad
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rills: can occur on this site on slopes greater than 15 percent.

2. **Presence of water flow patterns:** Water-Flow Patterns: may be present on slopes greater than 15 percent on this site. When they do occur they are short and disrupted by cool season grasses, shrubs and surface stones. They are not extensive.

3. **Number and height of erosional pedestals or terracettes:** Pedestals and/or Terracettes: can occur on the site. They are most likely to occur where water flow patterns are present and surface stones are absent.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground: ranges from 45-55 percent.

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 Deposition Areas: does not occur.
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7. **Amount of litter movement (describe size and distance expected to travel):** Litter Movement: fine litter moves by wind or water. Fine litter can move up to 2 feet after a strong summertime convection storm. Due to the relatively flat slopes, large litter 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 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):** Soil Surface Loss or Degradation: Structure ranges from weak to strong thin platy, weak to strong fine or very fine granular, weak medium subangular blocky to moderate medium angular blocky. The A or A1 horizon is typically 2 to 17 inches thick. Soil organic matter (SOM) ranges from 0.5 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 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):** Compaction Layer: may be present especially if the site has a history of grazing in the spring-time when soils are wet. Do not mistake an argillic horizon or a duripan 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: Functional/Structural Groups: cool season deep-rooted perennial bunchgrasses>> medium 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: 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):** Litter Amount: 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 650 pounds per acre (722 Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses produce 40-55 percent of the total production, forbs 15-25 percent and shrubs 30-35 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: include cheatgrass, medusahead, Vulpia species, bulbous bluegrass and annual mustards.
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17. **Perennial plant reproductive capability:** Reproductive Capability of Perennial Plants: all functional groups have the potential to reproduce in favorable years.
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