

Ecological site R010XA023ID Loamy 12-16 PZ ARTR4/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:** Rarely occur on this site. If rills are present they are most likely to occur on steeper slopes greater than 10 percent and immediately following wildfire. Rills are most likely to occur on soils with surface textures of silt loam and clay loam.

2. **Presence of water flow patterns:** Water flow patterns rarely occur on this site except on slopes greater than 10 percent. When they do occur they are short, disrupted by cool season perennial grasses and tall shrubs and are not extensive.

3. **Number and height of erosional pedestals or terracettes:** Pedestals are rare on this site. In areas where slopes are greater than 10% and where flow patterns and /or rills are present, a few pedestals may be expected. Do not misinterpret frost heaving for pedestals. Terracettes are rare however, they provide a favorable micro-site for vegetation establishment which further increases infiltration.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** On sites in mid-seral status, bare ground may range from 30-40 percent.

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5. **Number of gullies and erosion associated with gullies:** Do not occur on this site.
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6. **Extent of 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.
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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 feet or further on slopes greater than 10 percent following a significant run-off event. 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):** Soil Stability Test ratings 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):** Structure ranges from weak or moderate thin platy to weak fine granular. The A or A1 horizon is typically 6 to 11 inches thick. Soil organic matter (SOM) ranges from 1 to 3 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 run-off and increase infiltration. Shrubs accumulate 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):** Does not occur.
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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: Tall shrubs = perennial forbs
- Other:
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Grass and forb mortality will occur as tall shrubs increase.
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14. **Average percent litter cover (%) and depth (in):** Annual litter cover in the interspaces will be 20-30 percent to a depth of <0.1. Under the mature shrubs litter is greater than 0.5 inches. Fine litter can accumulate behind bunchgrasses and shrubs on slopes greater than 10 percent.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Annual production is 800 lbs. per acre in a year with normal precipitation and temperatures. Perennial grasses produce 50-60 percent of the total, forbs 15-25 percent, and shrubs 15-25 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:** Cheatgrass, Medusahead, Bulbous Bluegrass, and other species listed on state noxious weed list.

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