

Ecological site R043BY017ID Shallow Stony 22+ PZ ARTRV/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	Scott Woodall
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** rills are rare on this site. If rills are present they are likely to occur immediately following wildfire on slopes greater than 15 percent. Rills are most likely to occur on soils with surface textures of silt loam. Cobbles on the surface reduce rill formation.
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2. **Presence of water flow patterns:** water-flow patterns are rare on this site. When they occur, they are short and disrupted by cool season grasses and are not extensive. Cobbles reduce water-flow patterns.

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3. **Number and height of erosional pedestals or terracettes:** neither is extensive. In areas where flow patterns and/or rills are present, a few pedestals may be expected. Terracettes occur on the site uphill from tall shrub bases and large bunchgrasses on slopes greater than 15 percent. Do not mistake frost-heaving for pedestals.
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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** data is not available. 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:** none.
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6. **Extent of wind scoured, blowouts and/or depositional areas:** these are rare. 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 feet 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):** 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):** The A or A1 horizon is typically 3 to 5 inches thick and brown moist. Structure ranges from moderate medium to fine granular. Soil organic matter (SOM) ranges from .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:** bunchgrasses, especially deep-rooted perennials, slow run-off and increase infiltration. Perennial grasses produce 70

to 90 percent of the total production and 10 to 30 percent forbs.

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: forbs

Other:

Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** there is little mortality or decadence on this site.
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14. **Average percent litter cover (%) and depth (in):** additional litter cover data is needed but is expected to be 15-20 percent to a depth of 0.1 inches. Under mature shrubs litter is >0.5 inches deep and is 90-100 percent ground cover.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** is 500 pounds per acre (560 kilograms per hectare) in a year with normal temperatures and precipitation.
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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: includes bulbous bluegrass, musk and scotch thistle, diffuse and spotted knapweed, leafy spurge, and Kentucky bluegrass.

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