

Ecological site R081BY349TX Steep Rocky 19-23 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	Bryan Christensen
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- Number and extent of rills:** None to few. Steep slopes preclude some soil movement but should be minimal for site. Deposition or erosion is uncommon for normal rainfall but may occur during intense rainfall events.

- Presence of water flow patterns:** None to few. Flow patterns follow old stabilized drainages and would have occurred only if intense rainstorms occurred during extended droughts or shortly after an intense wildfire.

- Number and height of erosional pedestals or terracettes:** Few to uncommon.

- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Less than 15 percent bare ground. Small and non-connected areas.

- Number of gullies and erosion associated with gullies:** None to few. Drainages are stable with adequate vegetative cover to reduce erosive action of runoff. Rare gullies would be vegetated and stabilized.

- Extent of wind scoured, blowouts and/or depositional areas:** None to slight. Wind erosion hazard of soil is slight. Minimal evidence of past wind scoured areas.

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7. **Amount of litter movement (describe size and distance expected to travel):** None to slight. Minimal movement of fine and medium size litter under normal rainfall with considerable movement of all sizes during intense rainfall events.
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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 is moderately resistant to water erosion. Stability class 4 to 6. Runoff due to steep slopes but clear, erosion-free runoff would be expected.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soils are dark grayish brown, very cobbly clay to about five inches thick and has 40 percent limestone fragments. SOM is medium.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Mid and tallgrasses are in good distribution and ground cover provide excellent infiltration. Runoff is rapid due to steep slopes but clear erosion free runoff would be expected.
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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):** None.
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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:
- Sub-dominant: Warm-season tallgrass
- Other: Warm-season midgrass Forbs Shrubs/Vines Trees Cool-season grasses Warm-season shortgrasses
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** None to slight. Minimal mortality in any functional group. Grasses almos always show some decadence and mortality.
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14. **Average percent litter cover (%) and depth (in):** Interspaces between plant canopies essentially covered with various sizes of litter and mulch. Wildfires, natural herbivory and/or extended drought might reduce litter to none. Recovery will take two to five years.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 800 pounds per acre in years with below average moisture, 1,700 pounds per acre in average moisture years and 2,200 pounds per acre in above average moisture years.
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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: Mesquite, pricklypear, agarito, acacia, sumacs, junipers, and condalia.
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17. **Perennial plant reproductive capability:** Good, all species should be capable of reproducing except during periods of prolonged drought, heavy natural herbivory or intense fire. Recovery from these disturbances will take two to five years.
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