

Ecological site R041XC319AZ Sandy Loam Upland 12-16" p.z.

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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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Date	03/04/2005
Approved by	S. Cassady
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None present

2. **Presence of water flow patterns:** Water flow paths occupy 10-15% of area; short (3-5 feet) in length and discontinuous and sinuous

3. **Number and height of erosional pedestals or terracettes:** Pedestals are infrequent on long lived perennial grasses; Approximately 10% of perennial grass plants have pedestals no more than 1 inch above surrounding soil surface; Black grama dominated areas have formed terracettes 2-5 feet apart with a 1 inch elevation difference from above to below the terracette; Bunchgrass dominated areas have formed terracettes 10-15 feet apart with a 1 inch elevation difference from above to below the terracette.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare soil 15-25%, gravel and rock 10%, litter 20-30%, vegetation canopy/basal 45-50%; bare patches 1-3ft in diameter

5. **Number of gullies and erosion associated with gullies:** None

6. **Extent of wind scoured, blowouts and/or depositional areas:** None
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7. **Amount of litter movement (describe size and distance expected to travel):** All size classes remaining in place and masking water flow patterns, no loss of litter from the site
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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):** Aggregate stability test average >5.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface ranges from fine sandyloam to loamy sand; slight physical crust in interspaces, weak granular structure, OM throughout (greater under perennial plants), A-horizon 4-8+ in
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Canopy 25-30%, Basal 5-10%, Litter 65-75%; 75-80% of canopy cover is perennial grasses and 5-10% is trees and shrubs. Cover is well dispersed throughout site
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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, unrestricted root development throughout profile
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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: Perennial mid-grasses > annual forbs & grasses > shrubs > succulents > short grasses Mesquite canopy >= 10% may inhibit grass cover/production
- 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):** Some scattered mortality/decadence of low shrubs and smaller perennial grasses as may be expected for drought. May exhibit high degree of decadence due to lack of fire on the site.
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14. **Average percent litter cover (%) and depth (in):** 20-30% litter cover in canopy interspaces (65-75% total litter cover) with depths of 0.25 – 0.5in. Cover much higher under vegetation, some litter persisting since last season, uniform distribution throughout site. Almost all litter is herbaceous
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** annual production 2000 lbs/ac in favorable rainfall years, 1200 lbs/ac in normal years and 700 lbs/ac in

poor years

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: Lehmann's love grass can dominate site to the exclusion of other grasses, Mesquite can also dominate site and tend to inhibit grass cover/production after roughly 10% canopy cover, prickly pear also be invasive
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17. **Perennial plant reproductive capability:** Not impaired in anyway, even in prolonged drought black gramma producing stolons
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