

Ecological site R041XA108AZ Loamy Upland 16-20" p.z.

Last updated: 4/09/2021
Accessed: 04/27/2024

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	04/30/2013
Approved by	Curtis Talbot
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

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

2. **Presence of water flow patterns:** Common, short (<6 ft. in length), discontinuous

3. **Number and height of erosional pedestals or terracettes:** Pedestals common on perennial grasses (1/2-1" height). Terrecettes common, 1-3 ft. between with 1" elevation difference.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground ranges from 20-40%, with higher values after fire. Non-vegetated areas are very small (<1 ft. diam). Gravel cover 10-20%.

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):** Fine litter moving up approximately 1 ft. to upper margin of terrecettes.
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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):** Slake test values taken from under perennial grass and shrub cover were "5" and "6"; values from outside canopy ranged 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 horizon was gravelly loam, 0-2" depth, with granular structure. Color 5YR 3/3 moist.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Perennial grass basal cover well-dispersed across site. Perennial mid-grass distribution clumped among short-grasses. In mid-grass clumps foliar cover is high (50-70% foliar cover), short-grass foliar cover was 30-50%.
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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):** No compaction. Clay horizon at 5" can act like compaction layer. Soil penetrometer depth averaged 6 cm, with values ranging from 4 cm - 9 cm.
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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 > perennial short-grasses
- Sub-dominant: low shrubs > perennial forbs
- Other: succulents
- Additional: annual grasses and forbs fluctuate with rainfall
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Mortality about 2-5%. Perennial mid-grasses express decadence as time since last fire increases.
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14. **Average percent litter cover (%) and depth (in):** Litter cover ranges from 20-60%, increasing with time after burning.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 542 lbs/ac. in a below average year; 1285 lbs/ac. in an average year; 1955 lbs/ac. in an above average year.
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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: Lehmann lovegrass, Boer lovegrass, yellow bluestem, mesquite, alligator juniper

17. **Perennial plant reproductive capability:** Not impaired.
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