

Ecological site R041XA105AZ Limy Upland 16-20" 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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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 (3-5 ft.), and discontinuous. Surface water flow between perennial plant bases is interrupted by rocks and gravel.

3. **Number and height of erosional pedestals or terracettes:** Pedestals, 1/2" height, are common on perennial grasses; terracettes are common, 3-5 ft apart, 1" elevation difference.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 17% bare ground, non-vegetated areas are <2 ft diameter and soil is well-armored with gravel and rocks.

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 short distance (1-2ft) to lower edge of terracettes
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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 of 5 and 6 were uniform across site. 85% of samples were scored at 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 texture gravelly loam, 5" depth with granular structure. Color 10YR 3/3 dry, 2/2 moist
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** 10% perennial basal cover. Perennial grasses are evenly distributed across site with low shrubs and perennial forbs interspersed. 32% rock and gravel cover.
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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. No soil features that could be mistaken for compaction. Soil penetrometer test average was 5.9 cm with range in values from 5 cm to 8 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 > suffrutescent grasses
- Sub-dominant: low shrubs > perennial forbs
- Other: succulents
- Additional: annual grasses and forbs
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Decadence common on perennial grasses, 11 years since last fire. Build-up of annual biomass and plant decadence is expected as fire-free period lengthens.
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14. **Average percent litter cover (%) and depth (in):** Litter is confined to vegetated areas.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 306 lbs/ac. in a below average year; 720 lbs/ac. in an average year; 1125 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, Boers lovegrass, mesquite, white-thorn acacia, wait-a-bit

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