

Ecological site R041XA115AZ Loamy Swale 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:** Shallow channels 2-3 ft wide, 50-100 ft in length are present.

3. **Number and height of erosional pedestals or terracettes:** Pedestals common on perennial grasses (1/2" height). No terracettes.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground ranges from 10-50%, with higher values following fire. Bare ground diminishes to low values within 5 years. Non-vegetated areas are very small (<1 ft diam).

5. **Number of gullies and erosion associated with gullies:** Infrequent gullies, short (<100 ft in length) with active headcuts showing little movement.

6. **Extent of wind scoured, blowouts and/or depositional areas:** None

7. **Amount of litter movement (describe size and distance expected to travel):** All litter size classes stay in place.
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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 sandy loam, 0-6" depth, with granular structure. Color 10YR 3/4 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 (15%) was evenly dispersed across site. Post-burn values for basal cover were lower (8%), recovering within five years.
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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. Soil penetrometer depth averaged 11.4 cm. No underlying soil feature that can be mistaken for compaction.
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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: Mid-grasses
- Sub-dominant: perennial forbs > short-grasses
- Other: annual grasses and annual forbs
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Very little decadence or mortality.
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14. **Average percent litter cover (%) and depth (in):** Litter cover ranges from 40-75%, 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):** 1056 lbs/ac. in a below average year; 2060 lbs/ac. in an average year; 3320 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, coastal bermudagrass, Johnsongrass, velvet mesquite, cocklebur

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