

Ecological site R041XC311AZ Loamy Swale 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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Approved by	S. Cassady
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:** Uncommon; probably cover no more than 3-5% of area; short, 2-4 feet in length. Discontinuous.

3. **Number and height of erosional pedestals or terracettes:** Pedestals are uncommon, only observed where basal area killed by recent fire 0.5-0.75 inches of soil loss at these spots. Terracettes are fairly common, 3-8 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):** 5-10%; areas dominated by blue grama have higher bare ground than areas dominated by sideoats grama, mat muhly and vie mesquite.

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

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

7. **Amount of litter movement (describe size and distance expected to travel):** Very little litter movement occurring only in flow paths.
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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):** No slake test done. Expect ratings of 5-6 across site.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Weak granular to subangular blocky; color is 10YR3/2 dry, 10YR2/2 moist; thickness to 10+ inches.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Cover estimated at: canopy 60%; Basal 15%; litter 30%; 60% of canopy cover is perennial mid grasses, 10% is short grasses, 25% is annual forbs, and 5% is perennial forbs and annual grasses. Cover is well dispersed throughout the 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
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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 >> short grasses > annual forbs > annual grasses = perennial forbs
- 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):** Very low basal area loss is masked by litter decomposition. Only a few plants lost by recent fire.
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14. **Average percent litter cover (%) and depth (in):** Some areas dominated by vine mesquite have litter 5-6 inches deep.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 1000 lbs/ac unfavorable precipitation; 2000 lbs/ac normal precipitation; 2500 lbs/ac favorable precipitation
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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: wait-a-bit, Lehmann lovegrass, emsquite, bermuda grass, johnson grass, burroweed

17. **Perennial plant reproductive capability:** Not affected even following several years of prolonged drought period for region.
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