USDA Natural Resources
Conservation Service

Ecological site R041XC306AZ
Shallow Hills 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	02/17/2005
Approved by	Curtis Talbot
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None present on this site.

2. **Presence of water flow patterns:** Occupy < 5% of area, broken by rock and gravel cover, <1 foot in length, highly discontinuous.

3. **Number and height of erosional pedestals or terracettes:** Erosional pedestals are very uncommon (1 per 20 plants observed); Terracettes are fairly uncommon, 10-20 feet apart with a 3-4 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%

5. **Number of gullies and erosion associated with gullies:** None present on this site.

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

7. **Amount of litter movement (describe size and distance expected to travel):** All litter size classes are staying 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):** Expect ratings of 1-3 in plant, rock and gravel interspaces.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Weak granular; Color is 10YR6/2 Dry, 10YR4/2 Moist; thickness to 3 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 in 9.6ft2 frames as: Canopy 30%, Basal 6%, Litter 10%; 60-70% of canopy cover is perennial mid grasses, 20-30% sub shrubs, 5% is perennial forbs , 5-10% is annual forbs & grasses, and <1% trees & 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 present on this site.

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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 grass = sub shrubs

    Sub-dominant: annual forbs & grasses > perennial forbs > trees & shrubs > succulents

    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; most basal area loss is masked by litter decomposition.

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14. **Average percent litter cover (%) and depth (in):**

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 600 lbs/acre unfavorable precipitation; 900 lbs/acre normal precipitation; 1,600 lbs/acre 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: Lehmann lovegrass

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