

Ecological site R084AY088OK Shallow Savannah

Last updated: 9/21/2023
Accessed: 04/26/2024

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	05/28/2020
Approved by	Brandon Reavis
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- 1. Number and extent of rills:** There are few, if any, rills (then no more than 2" wide and 4" deep) and there is no active headcutting and sides are covered with vegetation.

- 2. Presence of water flow patterns:** There is slight evidence of water flow patterns around vegetation, particularly after significant rain events, but water generally flows evenly over the entire landscape.

- 3. Number and height of erosional pedestals or terracettes:** No pedestals or terracettes under reference conditions.

- 4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** There is some variability, but it should average <25% bare ground on this site. Bare areas are small and not connected.

- 5. Number of gullies and erosion associated with gullies:** No gullies under reference condition. Some evidence of geological erosion.

- 6. Extent of wind scoured, blowouts and/or depositional areas:** No wind erosion on site.

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7. **Amount of litter movement (describe size and distance expected to travel):** Uniform distribution of litter. Litter rarely moves >12 inches on flatter slopes and may be as much as doubled on steeper slopes, then only during high intensity storms.
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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):** Average of scores 5 or higher.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** A horizon 0 to 6 inches; reddish brown very gravelly silty clay loam, dark reddish strong medium granular structure. B horizon: 6 to 28 inches; reddish brown silty clay loam, reddish brown moderate medium granular structure. Refer to soil specific description for component sampled.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Infiltration and runoff are not affected by any changes in plant community composition and distribution. (Tallgrass/Midgrass/Tree canopy dominant).
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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):** There is no compaction layer.
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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: Tree = Little Bluestem
- Sub-dominant: Tallgrasses , Other Midgrasses
- Other: Forb+Legume , cool season grasses, Shrub
- Additional: Tree species should be predominately oak and hickory
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Plant mortality and decadence is highly variable on this site due to the droughty nature of the soils, (especially after a severe drought), but will primarily average <10%. This is more likely in the absence of fire and herbivory.
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14. **Average percent litter cover (%) and depth (in):** Litter should cover 50-75% of the area between plants with accumulations of <1/2 inch deep. Variable with time since fire.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Normal production is 2500-3200 pounds/ac per 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: Invasives include: eastern redcedar, elm, hackberry, greenbriar, privet, sericea lespedeza and non-natives (introduced species).
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17. **Perennial plant reproductive capability:** All plants capable of reproducing at least every year.
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