

Ecological site R078CY006OK Clayey Breaks

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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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Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- 1. Number and extent of rills:** Very few rills.

- 2. Presence of water flow patterns:** Distinct, particularly on steeper slopes. Not usually more than 1 foot deep.

- 3. Number and height of erosional pedestals or terracettes:** Common, around small rocks and around bunchgrasses, but usually not more than 1 – 2 inches deep.

- 4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 25-35% bare ground; Rock = 2 - 25%

- 5. Number of gullies and erosion associated with gullies:** Shallow soil limits formation of anything but small gullies. Usually these are on steeper slopes, are rounded, less than 1 – 2 feet deep and 2 – 3 feet wide. Geologic erosion occurs on this site.

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

7. **Amount of litter movement (describe size and distance expected to travel):** Litter can move 1- 3 feet after a high intensity rainfall event. It is difficult to maintain litter on exposed soil, particularly on the high slopes portion.
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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):** Stability score 5 – 6
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Very gravelly clay; low SOM; Refer to Soil Series description.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Mid-grass (little bluestem, sideoats grama), short grass/shrub community randomly dispersed. Slopes and very slowly permeable soils result in high runoff.
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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 layer but fine texture and hard structure can be mistaken for 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: Warm-season Midgrasses>Warm-season Tallgrasses(If soil resources allow)
- Sub-dominant: Warm-season Shortgrasses>Forbs>Shrubs/Vines
- Other: Trees
- Additional: Aspect and Slope will have significant affect on Functional/Structural Groups
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Due to the droughty nature of this site, some mortality will occur, especially with three-awns, sideoats grama and little bluestem. Death loss could be around 10%, higher in extremely dry, hot years.
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14. **Average percent litter cover (%) and depth (in):** Litter is predominantly herbaceous
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 650-1200 pounds per acre
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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: Eastern redcedar and Mesquite can become invasive

17. **Perennial plant reproductive capability:** All plants should be capable of reproduction at least every 2-3 years, except during periods of prolonged drought conditions, heavy natural herbivory or intense wildfires.
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