

## **Ecological site R078CY065OK Red Clay (North)**

Last updated: 9/15/2023

Accessed: 05/21/2025

---

### **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.

Author(s)/participant(s)	Mark Moseley
Contact for lead author	100 USDA Suite 102 Stillwater, OK 74074
Date	07/09/2004
Approved by	Bryan Christensen
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:** Some, usually only after high intensity rains.
- 

3. **Number and height of erosional pedestals or terracettes:** Some but rarely more than 1 inch depth.
-

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground 10 – 15%.
- 
5. **Number of gullies and erosion associated with gullies:** Some rare in drains but probably were limited to less than 1 – 2 foot overfalls and less than 2 – 3 feet wide.
- 
6. **Extent of wind scoured, blowouts and/or depositional areas:** None.
- 
7. **Amount of litter movement (describe size and distance expected to travel):** Less than 12 inches, and usually only after high intensity rainfall.
- 
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.
- 
9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** A: 0 to 5 inches; red clay, moderate fine subangular blocky structure. Bk: 5 to 25 inches; dark red clay, moderate fine and medium subangular blocky structure.
- 
10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Mid grass and shortgrass community. Tall grasses random, occurring in drains. Slow permeability and moderate cover can result in high runoff.
- 
11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None, fine textured, hard soils can be mistaken for compaction.
- 
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-grass (little bluestem) > shortgrasses > tall grasses

Sub-dominant: warm-season perennial forbs > cool season grasses and grasslikes

Other:

Additional:

---

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** There can be some plant loss due to droughty nature of the site, especially after severe drought, but should be less than 5%.
- 
14. **Average percent litter cover (%) and depth ( in):** Litter cover should average 60% at a depth not more than 1 inch.
- 
15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 1000 – 2200 lbs./acre
- 
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 with a lack of regular burning.
- 
17. **Perennial plant reproductive capability:** All plants capable of reproducing at least every 2 – 3 years.
-