Ecological site R080BY147TX
Claypan 26-33" PZ

Last updated: 9/19/2023
Accessed: 10/12/2024

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.

Author(s)/participant(s)	Colin Walden, Soil Survey Region 9
Contact for lead author	colin.walden@ok.usda.gov
Date	02/13/2018
Approved by	Bryan Christensen
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Minimal evidence of current or past rill formation.

2. **Presence of water flow patterns:** Few water flow patterns on steep areas. Short and stable, not incising.

3. **Number and height of erosional pedestals or terracettes:** No pedestals or terracettes present.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground less than 10 percent. Bare areas small and not connected.

5. **Number of gullies and erosion associated with gullies:** No gullies present.

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

7. **Amount of litter movement (describe size and distance expected to travel):** Litter movement less than 3 feet. Vegetative cover should restrict litter movement over long distances. Only herbaceous litter less than .25 inches

expected to move.

---

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil stability scores of 5 or greater expected.

---

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Callahan: Ap--0 to 7 inches; reddish brown (5YR 4/4) loam, dark reddish brown (5YR 3/4) moist; massive; hard, firm

   See official description for specific soil component.

---

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Presence of native midgrasses and few tallgrasses allow for good infiltration across
    landscape. However, some runoff still expected due to the nature of the clay subsoils.

---

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** No compaction under reference conditions. Beware texture change of Bt horizon not product of 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: Midgrasses (Group 1&2)

    Sub-dominant: Other grasses (3,4,5)
    Forbs (6)

    Other: Shrubs (7)

    Additional:

---

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Possible mortality only during prolonged drought. Less than 5%.

---

14. **Average percent litter cover (%) and depth (in):** Litter expected to be at 75% cover at average .25 inch depth.

---

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Annual production 2,500 lb/ac. Ranging from 1,500 to 3,500 lbs.

---

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: Mesquite and Juniper(ashe juniper/eastern redcedar) most common invaders.

---

17. **Perennial plant reproductive capability:** Plants should be capable of reproducing every year with exception of prolonged growing season drought.