USDA Natural Resources
Conservation Service

Ecological site R086AY008TX
Northern Eroded Blackland

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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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Approved by	Bryan Christensen
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rills are not common on this site. Extent is influenced by length of slope.

2. **Presence of water flow patterns:** Some water flow patterns are normal for this site due to landscape position and slope but should be vegetated and stable.

3. **Number and height of erosional pedestals or terracettes:** Occasional low pedestals or terracettes are expected in association with rills and water flow areas.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Expect no more than 30 percent bare ground randomly distributed throughout.

5. **Number of gullies and erosion associated with gullies:** No gullies should be present on side drains into perennial and intermittent streams. Drainageways should be vegetated and stable.

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

7. **Amount of litter movement (describe size and distance expected to travel):** This site has slowly permeable soils. On sloping sites, small to medium-sized litter will move short distances during intense 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):** Soil surface under reference conditions is resistant to erosion. Soil stability class range is expected to be 3 to 5.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** 40 to 60 inches thick. Colors range from olive gray to dark grayish brown having very fine and moderately fine subangular blocky structure. SOM is 1 to 3 percent.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** This site is dominated by tallgrasses and forbs and trees having adequate litter and little bare ground can provide for maximum infiltration and little runoff under normal rainfall events.

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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.

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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 tallgrasses >

    Sub-dominant: Warm-season midgrasses > Warm-season shortgrasses >

    Other: Cool-season grasses > Trees > Forbs > Shrubs/Vines

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Grasses due to their growth habit will exhibit some mortality and decadence, though very slight.

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14. **Average percent litter cover (%) and depth (in):** Litter is primarily herbaceous.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 2,000 to 4,500 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: Invasives include yellow bluestems, common Bermudagrass, mesquite, elm, huisache, eastern red cedar, Macartney rose.

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17. **Perennial plant reproductive capability:** Under reference conditions, all perennial plants should be capable of reproducing, except during periods of prolonged drought conditions, heavy herbivory, and intense wildfires.
