

Ecological site R150AY535TX

Southern Loamy Prairie

Last updated: 9/22/2023

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)	Mike Stellbauer, Zone RMS, NRCS, Bryan, TX
Contact for lead author	
Date	06/08/2004
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:** Uncommon.
-

3. **Number and height of erosional pedestals or terracettes:** Should not occur under reference conditions.
-

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Less than 20 percent bare ground randomly distributed throughout.
-

5. **Number of gullies and erosion associated with gullies:** None.
-

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

7. **Amount of litter movement (describe size and distance expected to travel):** Small to medium-sized litter may move short distances during intense storms.
-

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil surface is resistant to erosion. Soil stability class range is expected to be 4 to 6.
-

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The soil surface structure is 14 to 35 inches thick with colors from light brownish gray to grayish brown and a weak fine subangular blocky structure. SOM is less than 2 percent.
-

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** This true tallgrass prairie site with adequate litter and little bare ground provides for maximum infiltration and little runoff under normal rainfall events.
-

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** No compaction in A horizon. The clay layer at about 30 inches causes a perched water table during the winter months.
-

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 Forbs

Other: Annual grasses Annual Forbs

Additional:

13. **Amount of plant mortality and decadence** (include which functional groups are expected to show mortality or decadence): Little apparently mortality or decadence for any functional groups.
-

14. **Average percent litter cover (%) and depth (in):**
-

15. **Expected annual annual-production** (this is **TOTAL** above-ground annual-production, not just forage annual-production): 5,000 pounds per acre for below average moisture years to 8,500 pounds per acre for above average moisture years.
-

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:** Potential invasive species include Chinese tallow, huisache, mesquite, common bermudagrass, bahiagrass, yaupon, and Macartney rose.
-

17. **Perennial plant reproductive capability:** All perennial plants should be capable of reproducing except for periods of prolonged drought conditions, heavy natural herbivory, and intense wildfires.
