

## Ecological site R082AY369TX Red Sandy Loam 25-32 PZ

Last updated: 9/19/2023  
Accessed: 05/12/2025

### 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.

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| Author(s)/participant(s)                    | Synergy Resource Solutions, Belgrade, Montana                 |
| Contact for lead author                     | Zone Rangeland Management Specialist, NRCS, San Angelo, Texas |
| Date  | 01/18/2011  |
| Approved by                                 | Bryan Christensen   |
| Approval date                               |   |
| Composition (Indicators 10 and 12) based on | Annual Production   |

### Indicators

1. **Number and extent of rills:** None.

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2. **Presence of water flow patterns:** None, except following extremely high intensity storms when short flow patterns may appear.

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3. **Number and height of erosional pedestals or terracettes:** None.

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 0 to 5 percent bare ground. Very small (<1 square foot) and non-connected areas.

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

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

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7. **Amount of litter movement (describe size and distance expected to travel):** Very little litter movement under normal

rainfall intensity. Litter is well distributed and stays in place beneath plant canopies.

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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 is very stable (average soil stability values of > 5).
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** 0-28 inches thick, fine sandy loam, sandy loam, reddish, weak fine and very fine subangular blocky structure. SOM 0-3%.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** High canopy, basal cover and density with small interspaces should make rainfall impact negligible. This site has well drained soils, deep with level to gently sloping (0 to 3 percent slopes) which produces negligible runoff and erosion.
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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 midgrasses >>
- Sub-dominant: Warm-season shortgrasses >
- Other: Forbs > Cool-season grasses > Trees > Shrubs > Warm-season tallgrasses
- Additional: Forbs make up 15 percent of species composition, shrubs and trees compose up to 10 percent species composition.
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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. Little mortality evident on woody species.
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14. **Average percent litter cover (%) and depth ( in):** Loose litter (tree leaf fall) may be up to 6 inches deep.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Representative value for production = 3000 lbs/ac.
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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:** King Ranch bluestem, Wilmans lovegrass, mesquite, whitebrush, Ashe juniper, and cacti are the primary invaders.

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