

Ecological site R085AY180TX Deep Redland 30-38" PZ

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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:** Matched what is expected for the site; minimal evidence of past or current rills; vegetation common and no signs of erosion.

- 2. Presence of water flow patterns:** This site has minimal flow patterns and minimal evidence of past or current soil deposition or erosion.

- 3. Number and height of erosional pedestals or terracettes:** Some very minor pedestalling may occur. Rarely should they be over 1/4 inch height.

- 4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 0 to 10 percent bare ground. Small and non-connected areas.

- 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):** Minimal and short. < 6 inches. Only associated with water flow patterns following extremely high intensity rainfall.
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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 stabilized by organic matter, decomposition products and/or a biological crust.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Very dark grayish brown clay surface 8 to 20 inches thick with very strong very fine subangular blocky and granular structure. Fragments of gravels, cobbles, and stones range from 10 to 80 percent in the soil profile. SOM is 1 to 4 percent.
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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 and basal cover and density with small interspaces make rainfall impact negligible. This site has well drained soils, slowly permeable, 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 tallgrasses >>
- Sub-dominant: Warm-season midgrasses >
- Other: warm-season shortgrasses > forbs = trees > 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):** Minimal under normal weather conditions. Grasses almost always show some decadence and mortality.
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14. **Average percent litter cover (%) and depth (in):** Litter is dominantly herbaceous and covers most all plant and rock interspaces.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 4000 to 6000 #/acre. 4000 pounds in below average moisture years, 5000 pounds in "normal" years and 6000 pounds in above average moisture years.
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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: Ashe juniper, prickly pear, and mesquite are the primary invaders.

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