

Ecological site R038XB202AZ Clayey Upland 16-20" p.z.

Accessed: 05/13/2025

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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Date	05/09/2008
Approved by	Byron Lambeth
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None present on this site.
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2. **Presence of water flow patterns:** Water flow patterns are 1-2 feet in length and broken by microtopography created by cracking and churning of the soil and frequent perennial grass plant bases.
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3. **Number and height of erosional pedestals or terracettes:** None present on this site.
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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 15-25%
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5. **Number of gullies and erosion associated with gullies:** None present on this site.
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6. **Extent of wind scoured, blowouts and/or depositional areas:** None present on this site.
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7. **Amount of litter movement (describe size and distance expected to travel):** Herbaceous litter is dominant on this site and moves 1-2 feet until it encounters microtopographic lows or perennial grass plant bases.

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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 stability values range from 5-6.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Weak granular to moderate fine subangular blocky. 7.5YR 4/3 dry, 7.5YR 3/3 moist. Thickness to 3 inches.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Warm season grasses dominate the plant community and contribute the most towards infiltration. High shrink-swell soil properties are also significant to infiltration. Plants are well distributed across site with average spacing of 1 foot between perennial plants.
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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 present on this site. Freeze-thaw action reduces the incidence of compaction.
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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: tobosa >> cool season perennial grasses > warm season perennial grasses
- Sub-dominant: annual grasses = annual forbs > perennial forbs (in el nino years annual grasses and forbs >= other warm season perennial grasses
- Other: shrubs = half shrubs = succulents
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Some. Approximately 30-40% of basal cover is lost in prolonged drought.
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14. **Average percent litter cover (%) and depth (in):**
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** From ecological site description average annual production is: 750 lbs/ac(drought), 1725 lbs/ac(normal year), 2600 lbs/ac (wet year).
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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: tumble mustard, filaree, mesquite, juniper, wait-a-bit mimosa, catclaw acacia, cane cholla, prickly pear, wild oats, red brome, cheatgrass, yellow starthistle, Russian knapweed, leafy spurge

17. **Perennial plant reproductive capability:** Not affected even during prolonged regional drought.
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