USDA Natural Resources
Conservation Service

Ecological site R084BY179TX
Limy Slope 30-38

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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:** None. Current or past formation of rills are not present.

2. **Presence of water flow patterns:** None. This site rarely has flow patterns. Some are expected around surface obstacles.

3. **Number and height of erosional pedestals or terracettes:** None. Some minor pedestalling may occur in the shallow lower production portions of the site. Rarely should they be over 1/4 inches 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:** Drainages are represented as natural stable channels, vegetation common and no signs of erosion.

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. Less than 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):** Stable. No reduction in soil stability in plant interspaces or slight reduction throughout the site. Stabilizing agents as expected.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Grayish brown clay loam surface 6 to 16 inches thick with subrounded to angular pebbles, cobbles, and stones and strong granular / moderately blocky structure. Soil Organic Matter 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, basal cover, and density with small interspaces make rainfall impact negligible. This site has well drained soils, slowly permeable with 1 to 12 percent slopes which allows 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 to minimal, not restrictive to water movement and root penetration.

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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: Forbs > Shrubs/Vines = Trees > Warm-season shortgrasses > Warm-season sodgrasses

    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 dominantly herbaceous and covers almost 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 8000 #/acre. 4000 pounds in below average years, 6000 pounds in normal years and 8000 pounds in above average 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, pricklypear, mesquite and King Ranch bluestem are the primary invaders.

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17. **Perennial plant reproductive capability:** Only drought, natural herbivory and/or wildfires decrease reproductive capability of any functional groups in the HCPC state.
