USDA Natural Resources
Conservation Service

Ecological site R081CY360TX
Low Stony Hill 29-35 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.

Author(s)/participant(s)	Mark Moseley
Contact for lead author	RMS, NRCS, Boerne, Texas
Date	06/29/2005
Approved by	Colin Walden
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:** None, except following extremely high intensity storms when short flow patterns may exist.

3. **Number and height of erosional pedestals or terracettes:** None, except small ones in the shallowest part of the soil.

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

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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):** Minimal and short, less than 3-7".

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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):** Stability class range is expected to be 5-6.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Dark reddish brown clay surface with subrounded to angular pebbles, cobbles, and stones. Soil Organic Matter is 1 - 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 of trees, bunch grasses and sod forming grasses, small interspaces should make rainfall impact negligible. Site is will drained, slowly permeable, 1-12 percent slopes.

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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):** No evidence 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: Warm-season tallgrasses

Sub-dominant: Warm-season midgrasses Cool-season grasses Trees

Other: (S) warm season shortgrasses (M) forbs (M) shrubs (M).

Additional: Forbs make up 3 percent species composition while trees and shrubs compose of 20 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 usually show some mortality and decadence.

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14. **Average percent litter cover (%) and depth (in):** Litter is dominantly herbaceous.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 2200# for below average moisture years to 3500# for 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, old world bluestems, prickly pear and mesquite.

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