

Ecological site R053BY015ND Thin Loamy

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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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Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- Number and extent of rills:** None on slopes less than 25%. On slopes > 25% rills may be visible but are short (12 to 20 inches) and discontinuous.

- Presence of water flow patterns:** None on slopes <25%. May be observable on slopes greater than 25% but are relatively short (several feet or less in length) and not connected.

- Number and height of erosional pedestals or terracettes:** Not observable on slopes < 25%. Some pedestalling evident on slopes > 25% with occassonal terracettes.

- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground 10 to 15% consisting of randomly scattered small patches no greater than 2 inches in diameter. Rocks could account for 5% of the ground cover.

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

- 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):** Plant litter remains in place on slopes < 25%. Slight movement may be visible following intense thunderstorm events particularly after extended periods of below normal precipitation. On slopes >25%, short movement (< 24 inches) of fine plant litter may be visible and litter debris dams are occasionally present.
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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 aggregate stability ratings should typically be 5 to 6, normally 6. Soil surface fragments will typically retain structure indefinitely when dipped in distilled water.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Use soil series description for depth, color and structure of A horizon/surface layer.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Combination of shallow and deep rooted species (mid & tall rhizomatous and tufted perennial cool- and warm-season grasses) with fine and coarse roots positively influences infiltration.
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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: Mid warm-season grasses >
- Sub-dominant: Mid cool-season bunchgrasses >
- Other: Forbs > grass-likes = tall warm-season grasses = mid cool-season rhizomatous > short warm-season grasses = shrubs > short cool-season grasses
- Additional: Due to differing root structure and distribution, Kentucky bluegrass and smooth brome grass do not fit into reference plant community F/S groups.
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** None.
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14. **Average percent litter cover (%) and depth (in):** In contact with soil surface.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Representative value = 1900 lbs./ac air dry with a range of 1400 to 2400 lbs./ac air dry depending upon growing conditions.

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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: State and local noxious, Kentucky bluegrass, smooth brome grass
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17. **Perennial plant reproductive capability:** All species exhibit high vigor relative to climatic conditions. Do not rate based solely on seed production. Perennial grasses should have vigorous rhizomes or tillers.
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