

## Ecological site R063AY030SD Limy Clay

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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 typical on more vegetated areas – some rills on exposed shale.

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- Presence of water flow patterns:** None, or barely visible and discontinuous.

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- Number and height of erosional pedestals or terracettes:** Pedestals are sometimes present, but not common. Vegetated areas adjacent to bare shale areas are sometimes elevated above shale.

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- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 5 to 20 percent is typical on well vegetated area – higher amounts may be found on exposed shale.

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

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- Extent of wind scoured, blowouts and/or depositional areas:** None.

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- Amount of litter movement (describe size and distance expected to travel):** Litter should fall in place. Slight amount

of movement of smallest size class litter is possible, but not normal.

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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. Surface organic matter adheres to the soil surface. 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):** A-horizon should be 2 to 6 inches thick with mollic (dark) colors when moist. Structure typically is medium to fine granular at least in the upper A-horizon.
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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-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: Tall warm-season rhizomatous grasses > Mid/tall cool-season bunchgrasses >
- Sub-dominant: Mid warm-season grasses > Mid cool-season rhizomatous grasses >
- Other: Forbs > Shrubs > Grass-likes = Short warm-season grasses
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Very little evidence of decadence or mortality. Bunch grasses have strong, healthy centers and shrubs are vigorous.
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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):** Production ranges from 2,000-3,200 lbs./acre (air-dry weight). Reference value production is 2,600 lbs./acre (air-dry weight).
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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 weeds, Kentucky bluegrass, annual bromes

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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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