

## Ecological site R066XY040NE Shallow Limy

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

### Indicators

1. **Number and extent of rills:** Typically non-existent.
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2. **Presence of water flow patterns:** Non-existent or barely visible.
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3. **Number and height of erosional pedestals or terracettes:** Typically none, few pedestalled plants may be present, but no roots exposed.
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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground is typically less than 10 percent.
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5. **Number of gullies and erosion associated with gullies:** None should be present.
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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):** Little to no plant litter movement.

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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.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface structure is typically granular, with mollic (dark, organic matter) colors roughly 4 to 9 inches in depth.
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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 deep-rooted perennial grasses and forbs enhance 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):** No compaction layer would be expected except for the naturally occurring rooting restriction occurring at 10 to 20 inches.
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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 > tall, warm-season rhizomatous grasses >
- Sub-dominant: Mid and tall, cool-season bunchgrasses > short, warm-season grasses >
- Other: Mid, cool-season rhizomatous grasses = forbs > grass-like species > shrubs > trees
- Additional: Other grasses in other functional groups occur in minor amounts.
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Little to no plant decadence or mortality, bunchgrasses have healthy centers.
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14. **Average percent litter cover (%) and depth ( in):** Litter cover typically 50 to 70 percent. Litter cover is 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):** Total annual production ranges from 1,000 to 2,300 pounds/acre, with the reference value being 1,700 pounds/acre (air-dry basis).
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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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