

Ecological site R075XY077NE 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	Nadine Bishop
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Few, if any. No active headcutting and sides are covered with vegetation.

2. **Presence of water flow patterns:** Little, if any, soil deposition or erosion. Water generally flows evenly over the entire landscape.

3. **Number and height of erosional pedestals or terracettes:** No pedestaled plants or terracettes.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 95 percent or more of the ground is covered by plant canopy, litter, and stones. When prescribed burning is practiced there is little litter the first half the growing season.

5. **Number of gullies and erosion associated with gullies:** Few, if any. No active headcutting and sides are covered with vegetation.

6. **Extent of wind scoured, blowouts and/or depositional areas:** Wind has not created, or enlarged, bare areas or denuded vegetation.

7. **Amount of litter movement (describe size and distance expected to travel):** Plant litter is distributed evenly throughout the site.
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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):** Plant canopy intercepts the majority of raindrops. There is no evidence of pedestaled plants or terracettes. A soil fragment will not "melt" or lose its structure when immersed in water for 30 seconds.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The topsoil layer has not been plowed or eroded.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** No negative effect due to plant composition or distribution. No rill formation or plant pedestalling has occurred. Any alteration to infiltration or runoff is due to cultural practices.
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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 compacted soil layers due to cultural practices.
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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 (bunchgrass) - Little bluestem, Sideoats grama, composite dropseed
- Sub-dominant: Warm Season (rhizomatous) - Big bluestem, Indiangrass, Switchgrass,
Warm Season (narrow bladed) - buffalograss, perennial threeawns
- Other: Minor: Cool Season - Canada wildrye, Scribner's rosette grass sedges, western wheatgrass, Minor: Forbs (perennial) - black Samson echinacea, compassplant, daisy fleabane, dotted gayfeather, heath aster, Louisiana sagewort, slimflower scurfpea, spiderwort, Cuman ragweed, woolly plantain
- Trace: Shrubs - leadplant, prairie rose
- Additional: Warm season rhizomatous grasses comprise 40 percent to 100 percent of the plant composition.
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** The vast majority of plants are healthy and vigorous.
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14. **Average percent litter cover (%) and depth (in):** Plant litter is distributed evenly throughout. There is no restriction to plant regeneration due to depth of litter. When prescribed burning is practiced there will be little litter the first half the growing season.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 1,800-3,000 pounds per acre.

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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: common sunflower, fall witchgrass, Kochia, tansymustard, Japanese brome, wild lettuce, mullein, woolly verbena, windmill grass, Canada thistle, nodding plumeless thistle, ironweed, cheatgrass, Cuman ragweed, eastern redcedar
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17. **Perennial plant reproductive capability:** Desirable perennial plants are healthy. The vast majority of perennial plants have healthy rhizomes and/or stolons.
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