

Ecological site R070AY004NM Bottomland

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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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| Date | 04/26/2005 |
| Approved by | Kendra Moseley |
| Approval date | |
| Composition (Indicators 10 and 12) based on | Annual Production |

Indicators

1. **Number and extent of rills:** None
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2. **Presence of water flow patterns:** Water flow patterns can exist down towards main channel from side slopes, especially on steeper slopes.
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3. **Number and height of erosional pedestals or terracettes:** Some minor amounts (less than 1/2 inch in height) due to water flow patterns.
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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 15-25 percent or less bare ground with bare patches ranging from 5-10 inches in diameter. Bare ground can increase following prolonged drought. Wildfire will cause bare ground to increase.
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5. **Number of gullies and erosion associated with gullies:** Occasional due to water flow patterns from upland areas (down towards main channel).

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6. **Extent of wind scoured, blowouts and/or depositional areas:** Deposition can occur in some areas where water flow paths deposit sediment.
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7. **Amount of litter movement (describe size and distance expected to travel):** Litter movement during storm events i.e. floods will cause movement of all sizes of litter (movement 1 to 3 yards). Some litter may create small dams.
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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 rating anticipated to be 3-4 in interspaces at soil surface. These values will need verification at reference site.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Average SOM ranges from 1-5 percent. (Manzano) A1-0 to 9 inches; dark brown (7.5 YR 4/2) loam, very dark brown (7.5 YR 2/2) moist; moderate medium granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Diverse grass, forbs, shrub functional/structural groups and diverse root structure/patterns reduce raindrop impact and slows overland flow, providing increased time for infiltration to occur. Extended drought reduces short, mid and tall warm bunchgrasses, causing decreased infiltration and increased runoff following intense storm events, especially in bare patch areas if present.
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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: Warm-Season Bunchgrass>Cool-Season Mid Rhizomatous=Warm-Season Stoloniferous
- Sub-dominant: Warm-Season Short Bunchgrass/Rhizomatous>
- Other: Warm-Season Tall Bunchgrass>Shrubs>Warm Season Sod>Forbs>Trees/Willows
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Minimal
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14. **Average percent litter cover (%) and depth (in):** Litter amounts can be reduced following extended drought or wildfire events.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** (Low Production 1,000 pounds per acre) (Average RV Production pounds per acre) (High Production 4,000 pounds per acre) Production can be reduced following extended drought or the first growing season following wildfire.
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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:** Invasive plants should not occur in reference plant community. Salt cedar, a non-native species, can overtake natural vegetation and Russian olive can also invade into this site. Blue grama is a native (non-invasive) increaser on this site. Available surface or subsurface water can also be greatly affected on this site.
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17. **Perennial plant reproductive capability:** All plants should be vigorous, healthy and reproductive depending on disturbances i.e. drought. Plants should have numerous seed heads, vegetative tillers, etc. The only limitations are weather, wildfire, and natural disease that may temporarily reduce reproductive capability. Surface and subsurface water greatly influences plants reproductive capability.
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