USDA Natural Resources
Conservation Service

Ecological site R036XB018NM
Stony Loam

Last updated: 12/20/2024
Accessed: 05/11/2025

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	09/27/2023
Approved by	Kirt Walstad
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None to very rare.

2. **Presence of water flow patterns:** None to very rare.

3. **Number and height of erosional pedestals or terracettes:** Very minor.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

5. **Number of gullies and erosion associated with gullies:** No gullies are actively eroding.

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

7. **Amount of litter movement (describe size and distance expected to travel):** Very little litter movement. Some small debris may be displaced after a short distance following a precipitation event.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil stability rating ranges from 4 to 6.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The soil surface structure normally ranges from platy to sub-angular blocky to granular. The A horizon can be from 0 to 4 inches in depth, and typically ranges 7.5 YR to 10 YR in hue.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** The composition/distribution of cool and warm season grasses, shrubs, and forbs tends to slow overland flow and reduce raindrop impact while improving infiltration.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None.

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: Cool-season grasses>>Warm-season grasses.

    Sub-dominant: Shrubs>forbs>trees.

    Other:

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** During years with average to above-average precipitation, there should be very little recent mortality or decadence apparent in either the grasses or shrubs. Some mortality of cool season grasses may occur during severe winter droughts.

14. **Average percent litter cover (%) and depth (in):** The litter cover ranges from 5 to 15 percent with an average depth of less than .25 inches.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Total above ground production ranges from 250 to 800 pounds per acre, averaging approximately 525 pounds per acre.

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: Russian thistle, burningbush, cheatgrass, and juniper are all potential invaders.

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17. **Perennial plant reproductive capability:** During years with average to above average growing conditions, all perennial plants should have the ability in most years to produce see, tillers, or sprouts.
