Ecological site R056AY104ND
Choppy Sands

Accessed: 10/12/2024

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.

Author(s)/participant(s)	Bernadette Braun, Lee Voigt, Jeff Printz
Contact for lead author	jeff.printz@nd.usda.gov 701-530-2080
Date	02/06/2012
Approved by	Jeff Printz
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Few rills visible, short (6 to 8 inches in length) and associated with steeper slopes. Generally visible following severe rainfall events.

2. **Presence of water flow patterns:** Few. Very short (2 to 3 feet) and disconnected.

3. **Number and height of erosional pedestals or terracettes:** None. Some slight pedestalling of bunchgrasses may be observed on steeper slope ranges but roots will not be exposed.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 10 to 15% occurring in small (6 inches or less), non-connected patches.

5. **Number of gullies and erosion associated with gullies:** None.

6. **Extent of wind scoured, blowouts and/or depositional areas:** Not present in community phase 1.1. Blowouts and associated depositional areas may be present but limited in size following long term drought.

7. **Amount of litter movement (describe size and distance expected to travel):** None. Short movement (several inches) may be visible in association with water flow patterns.

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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 should be 5 or greater.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Use soil series description for depth, color and structure of A horizon/surface layer.

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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- and warm-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):** No compaction layer should be present. Buried A horizon may sometime be visible but does not constitute a compaction layer.

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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 grasses>

    Sub-dominant: Mid, warm-season grasses > mid, cool-season bunchgrasses

    Other: Grass-likes = forbs = shrubs > short, warm-season grasses = trees

    Additional: Due to differing root structure and distribution, Kentucky bluegrass and smooth bromegrass do not fit into reference plant community F/S groups.

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** None.

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14. **Average percent litter cover (%) and depth (in):** 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):** Ranges from 1500 to 2700 lbs/ac air dry depending upon growing conditions with a representative value (RV) of 2100 lbs./acre air dry.

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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, smooth bromegrass, buckthorn, eastern red cedar.

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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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