USDA Natural Resources
Conservation Service

Ecological site R116CY006MO
Shallow Igneous Knob Glade

Last updated: 9/24/2020
Accessed: 05/02/2024

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.

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Date	07/23/2014
Approved by	Nels Barrett
Approval date	
Composition (Indicators 10 and 12) based on	Foliar Cover

Indicators

1. **Number and extent of rills:** Rills are rare due to the extensive rock outcrops and stoney nature of the surface.

2. **Presence of water flow patterns:** Water flows in interstitial areas between bedrock occurrences.

3. **Number and height of erosional pedestals or terracettes:** rare; < 1 inch in height

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Areas of bare ground exist. When present they are generally underneath and associated with woody species that have shaded out other vegetation.

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

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

7. **Amount of litter movement (describe size and distance expected to travel):** minimal - little surface litter is present

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil surface is minimal in most areas. Sites are dominated by rock outcrops, stones, boulders and cobbly surfaces.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** 0-6 inche very dark grayish brown; SOM <2%

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Low due to low plant densities. Runoff rates can be high due to the shallow soil depths, large areas of bedrock outcropping and stoney nature of the ground surface.

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: Warm season grasses > forbs > sedges

    Sub-dominant:

    Other: shrubs

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** All plant species should be capable of reproduction depending on water availibility. All plants should be vigorous, healthy and reproductive depending on disturbance (e.g., drought). Plants should have numerous seed heads, vegetative tillers etc.

    The only limitations are weather-related effects, wildfire, and natural disease that may temporarily reduce reproductive capability. Plant mortality can be high due to droughty conditions and high sun exposure during summer months.

14. **Average percent litter cover (%) and depth (in):**

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** less than 200 pounds per acre per year.

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:** eastern redcedar, smooth sumac, sweet clover, tall fescue, teasel

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17. **Perennial plant reproductive capability:** Better in wet years and seasons. Poorer in dry years and seasons.
