Ecological site R058BY258WY
Shallow Clayey (SwCy) 15-17” PZ

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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.

Author(s)/participant(s)	
Contact for lead author	
Date	04/01/2005
Approved by	Kirt Walstad
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Due to the wide slope range associated with this site, the number and extent of rills will vary from none on sites with slopes of < 9% to common on slopes > 25%.

2. **Presence of water flow patterns:** Due to the wide slope range associated with this site, water flow patterns will vary from barely observable on sites with slopes of < 9% from broken and irregular in appearance to continuous on slopes > 25%.

3. **Number and height of erosional pedestals or terracettes:** Not evident on slopes <9%. Erosional pedestals will be present with terracettes present at debris dams on slopes >9%.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground is 20 to 35%.

5. **Number of gullies and erosion associated with gullies:** Active gullies restricted to concentrated water flow patterns.

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

7. **Amount of litter movement (describe size and distance expected to travel):** Little to no plant litter movement occurs on slopes < 9%. Litter movement does occur on slopes > 25%.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Plant cover and litter is at 65% or greater of soil surface and maintains soil surface integrity. Stability class anticipated to be 5 or greater.

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

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Plant canopy, very slow to slow infiltration rates, the amount of bare ground, and steepness of slopes results in a naturally high runoff rate on slopes > 25%, even in HCPC.

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 would be expected except for the naturally occurring rooting restriction (bedrock or decomposing shale) at 10 to 20 inches.

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:

    Sub-dominant:

    Other:

    Additional: Mid-stature bunch grasses > mid-stature rhizomatous grasses short stature grasses/grasslikes shrubs forbs

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Very low.

14. **Average percent litter cover (%) and depth (in):** Litter cover is in contact with soil surface.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 1300 lbs./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: Blue grama, buffalograss, greasewood, rabbitbrush, broom snakeweed, Plains prickly pear and species found on noxious weed list.

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17. **Perennial plant reproductive capability:** No limitations.