Ecological site DX032X01B146
Sands (Sa) Big Horn Basin Rim

Last updated: 9/05/2019
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)	Ray Gullion
Contact for lead author	ray.gullion@wy.usda.gov
Date	02/19/2008
Approved by	Marji Patz
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rills should not be present

2. **Presence of water flow patterns:** Barely observable

3. **Number and height of erosional pedestals or terracettes:** Essentially non-existent

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground is 25-35% occurring in small areas throughout site

5. **Number of gullies and erosion associated with gullies:** Active gullies should not be present

6. **Extent of wind scoured, blowouts and/or depositional areas:** Active blowouts should not be present

7. **Amount of litter movement (describe size and distance expected to travel):** Little to no plant litter movement. Plant litter remains in place and is not moved by erosional forces.

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 60% or greater of soil surface and maintains soil surface integrity. Soil Stability class is anticipated to be 4 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:** Grass canopy and basal cover should reduce raindrop impact and slow overland flow providing increased time for infiltration to occur. Healthy deep rooted native grasses enhance infiltration and reduce runoff. Infiltration is Moderately rapid to Very Rapid.

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 or soil surface crusting should be present.

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 and Mid stature Grasses

    Sub-dominant: Shrubs Forbs

    Other: Short stature grasses/grasslikes

    Additional:

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):**

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 500 lbs/ac

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:** Threadleaf sedge, Threeawns, Yucca, Skunkbush sumac, Big sagebrush, Annuals, Exotics,

Unpalatable forbs, and Species found on Noxious Weed List

---

17. **Perennial plant reproductive capability:** All species are capable of reproducing

---