USDA Natural Resources
Conservation Service

Ecological site R026XY096NV
SANDY PLAIN

Last updated: 4/10/2024
Accessed: 05/18/2024

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	02/21/2007
Approved by	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rills are none to rare.

2. **Presence of water flow patterns:** Water flow patterns are rare but a few may occur in areas subjected to summer convection storms. Flow patterns are short and stable.

3. **Number and height of erosional pedestals or terracettes:** Pedestals are rare with occurrence typically limited to areas within water flow patterns.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground to 40%; surface rock fragments <15%; shrub canopy to 30%; foliar cover for perennial herbaceous plants ±50%.

5. **Number of gullies and erosion associated with gullies:** Gullies are rare in areas of this site that occur on stable landforms.

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

7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter (foliage from grasses and annual & perennial forbs) is expected to move the distance of slope length during intense summer convection storms or rapid snowmelt events. Persistent litter (large woody material) will remain in place except during catastrophic events.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil stability values should be 1 to 3 on most soil textures found on this site. (To be field tested.)

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface structure is weak very thick platy parting to strong medium and coarse granular. Soil surface colors are light. Organic carbon of the surface 2 to 3 inches is less than to 1 percent. Surface soils are typically very loamy coarse sands.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Perennial herbaceous plants (especially deep-rooted bunchgrasses [i.e., Indian ricegrass & basin wildrye]) slow runoff and increase infiltration. Shrub canopy and associated litter break raindrop impact and provide opportunity for snow catch and accumulation on site.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** Compacted layers are not typical. Platy or massive sub-surface horizons, subsoil argillic horizons or hardpans shallow to the surface are not to be interpreted as compacted layers.

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: Reference Plant Community: Deep-rooted, cool season, bunchgrasses (i.e., Indian ricegrass & basin wildrye) > tall shrubs (big sagebrush & fourwing saltbush). (By above ground production)

    Sub-dominant: Associated shrubs > shallow-rooted, cool season, bunchgrasses = rhizomatous grasses = perennial forbs = annual forbs. (By above ground production)

    Other:

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Dead branches within individual shrubs are common and standing dead shrub canopy material may be as much as 25% of total woody canopy; mature bunchgrasses commonly (±15%) have dead centers.

14. **Average percent litter cover (%) and depth (in):** Between plant interspaces (±20%) and depth (± ¼-inch).

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-**

production): For normal or average growing season (February thru April [May]) ± 600lbs/ac.

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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:** Douglas rabbitbrush, broom snakeweed, and Anderson peachbrush are increasers on this site. Halogeton, Russian thistle, cheatgrass, and Utah juniper are invaders on this site.

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17. **Perennial plant reproductive capability:** All functional groups should reproduce in above average growing season years.
