USDA Natural Resources
Conservation Service

Ecological site R027XY045NV
SANDY 8-10 P.Z.

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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.

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Date	07/19/2013
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.

2. **Presence of water flow patterns:** Flow patterns are none.

3. **Number and height of erosional pedestals or terracettes:** Pedestals are rare to none.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen,**

moss, plant canopy are not bare ground): Bare Ground to 35-50% depending on amount of surface rock fragments

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

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6. **Extent of wind scoured, blowouts and/or depositional areas:** None to rare. Some wind-scouring will occur after wildfires.

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

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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 stability values should be 1 to 4 on most soil textures found on this site. (To be field tested.)

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Structure of soil surface is weak medium platy or single grain. Soil surface colors are pale browns or grays and soils are typified by ochric epipedon. Organic matter of the surface 2 to 3 inches is less than 1 percent.

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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]) slow runoff and increase infiltration. Shrub canopy and associated litter break raindrop impact and provide opportunity for snow catch and accumulation on site.

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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):** Compacted layers are none. Subsurface massive soil structure or argillic horizons should not be interpreted as

compaction.

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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: Deep-rooted, cool season, perennial bunchgrasses (i.e., Indian ricegrass)

    Sub-dominant: tall shrubs (big sagebrush) > associated shrubs > shallow-rooted, cool season, perennial bunchgrasses > perennial forbs > annual forbs

    Other:

    Additional: After wildfire: deep-rooted cool season perennial bunchgrasses and sprouting shrubs are dominant for an extended period. Big sagebrush will be removed for 5 to 10 years.

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

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14. **Average percent litter cover (%) and depth (in):** Between plant interspaces 20-30% and depth <¼-inch

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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 June) ± 600lbs/ac. Favorable years ±800 lbs/ac and unfavorable years ± 400 lbs/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:** Potential invaders

include halogeton, annual mustards, Russian thistle, and cheatgrass.

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17. **Perennial plant reproductive capability:** All functional groups should reproduce in average and above average growing season years. Little growth or reproduction occurs during extreme or extended drought periods.
