Ecological site R035XB223AZ
Sandy Upland 6-10" p.z. Sodic

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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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Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Some rills occurring on steeper slopes. An average of 4 or 5 times on a 150 foot tape with an average width of 6 inches is common.

2. **Presence of water flow patterns:** Rarely present, but may occur a few times on a 150 foot tape with an average width of 1 to 2 feet.

3. **Number and height of erosional pedestals or terracettes:** None.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 50-75%

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

6. **Extent of wind scoured, blowouts and/or depositional areas:** Common, not continuous wind-scoured areas with a size less than 20x20 feet; area is mostly covered in eolian sand generally no more than about 4 inches thick.

7. **Amount of litter movement (describe size and distance expected to travel):** Grass and shrub litter tends to stay in place; grass seeds tend to disperse further from the plant and there are scattered areas with a small amount of herbaceous litter that has been transported by water or wind.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Average soil surface stability is 1-2, both under canopy and in the interspaces.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil textures are typically sand to loamy sand with a thickness of 1 to 4 inches. Soil surface structure is mostly single grain, loose. Some soils will have weak medium platy. This ecological site is low in organic matter; a typical soil profile in this site lacks diagnostic soil horizons and may have a structureless sodium-affected layer at an average depth of around 20 inches; this layer is difficult to excavate.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Shrubs are scattered throughout the site, but tend to be clumped together. Herbaceous vegetation generally uniformly occurs within the interspaces. In wind-scoured areas devoid of surface sand there is generally no vegetation as this is where the sodium layer may be exposed.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** This site may have a sodium-affected layer between 5 and 20 inches; this layer is structureless and may be mistaken for a compaction layer as it is difficult to excavate. This salt-affected layer may be exposed in areas where the surface sand has been scoured or blown off the soil surface.

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 perennial grasses >

    Sub-dominant: >Cool season perennial grasses >>

    Other: Shrub/vine > Forbs

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** There may be some evidence of plant mortality in the perennial bunchgrasses such as stem remnants and standing dead; there may also be dead material at the base of actively growing perennial bunchgrasses and shrubs. The total amount of evident plant mortality may reach as high as 10% but should not exceed that amount.

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):** Average annual production on this site is expected to be 450 to 550 lbs/ac in a year of average annual production.

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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:** Invasives that can be expected in minor amounts are Russian thistle.

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17. **Perennial plant reproductive capability:** Natural limitations to reproductive capability are weather-related, herbivory or disease that reduces reproductive capability.
