

Ecological site R035XB233AZ Limestone/Sandstone Upland 6-10" p.z. Saline

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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	Steve Cassady
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- Number and extent of rills:** Generally none. A few short rills may occur on steeper slopes.

- Presence of water flow patterns:** Generally none. A few short water flow patterns may occur on steeper slopes.

- Number and height of erosional pedestals or terracettes:** Generally none. Occasional, short pedestals may occur on steeper slopes.

- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground ranges from 9 to 11 percent.

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

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

- Amount of litter movement (describe size and distance expected to travel):** Generally litter stays in place. Evidence

of litter movement is expected following the occasional intense summer thunderstorms known in the area of this ecological site. Expect some movement on steeper slopes.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** The soil surface is fairly well armored by gravels. Expect soil surface stability test ratings of: Overall average - 3.8 to 4.4, under canopy - 5.5 to 6, without canopy - 3.5 to 4.5.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** SOM is naturally very low in soils associated with this ecological site. A-horizons may be very hard to distinguish even in reference state. Evidence of SOM loss is noticeable sheet erosion, rills, water flow patterns, wind scouring, litter movement and/or reduced soil surface stability scores.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Expect shrubs to be randomly, but uniformly scattered across the ecological site. Herbaceous vegetation is generally uniformly scattered within the interspaces, but may be in patches, especially galleta and black grama. Expect larger patches without herbaceous vegetation in areas where bedrock is at or very near the surface. The average fetch (the distance from a sample point, such as line point, to the nearest perennial plant) is 6 to 9 inches. Extremes of 0 (basal occurrences) to as high as 25 inches (areas with bedrock at or near the surface) should be expected. Typically the range will be 3 to 12 inches.
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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):** None.
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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: Short shrubs (Shadscale saltbush)

Sub-dominant: Perennial grasses

Other:

Additional: Short shrubs>> warm season bunch grasses> warm season sod-grasses> cool season grasses> cactus> forbs> annual grasses.

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** No more than ten percent of long-lived perennial plants should show signs of mortality. Short-lived perennials can be expected to experience higher mortality due to year-to-year fluctuations in precipitation amount and timing.
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14. **Average percent litter cover (%) and depth (in):** In ungrazed areas the majority of litter seen in interspaces is from annual forbs and grasses. Even this tends to remain standing for several months after the plant has senesced. Leaf litter from shrubs tends to stay within a few inches of the dripline of the shrub. Litter from perennial grasses and forbs often

remains standing for several years.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Expect the annual total plant community production to be about 350 pounds per acre of air-dried material. Optimum climatic conditions with above average precipitation can commonly result in 550 pounds per acre of air-dried material. Adverse climatic conditions with below average precipitation can be expected to produce about 200 pounds per acre of air-dried material.
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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:** Cheatgrass, red brome, and Russian thistle are all expected to be found on the site in very minor amounts (Trace to a few pounds per acre of air-dried material).
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17. **Perennial plant reproductive capability:** The only natural limitations to reproductive capability are weather related and natural disease or herbivory that reduces reproductive capability.
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