

## Ecological site R035XB227AZ

### Sandy Loam Upland 6-10" p.z. Saline-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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|---------------------------------------------|----------------------------------------------------------------------------------|
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| Date                                        | 08/01/2012                                                                       |
| Approved by                                 | Byron Lambeth                                                                    |
| Approval date                               |                                                                                  |
| Composition (Indicators 10 and 12) based on | Annual Production                                                                |

#### Indicators

1. **Number and extent of rills:** None expected
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2. **Presence of water flow patterns:** None expected, but very few expected on slopes. When water flow patterns are present they should not be connected and less than a foot wide.
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3. **Number and height of erosional pedestals or terracettes:** None expected, but a few expected on slopes.

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground ranges from 35-65 percent. Biological soil crust can range from 5-30 percent.
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5. **Number of gullies and erosion associated with gullies:** None present
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6. **Extent of wind scoured, blowouts and/or depositional areas:** No wind scour or blowouts expected. None to very slight depositional areas around long lived perennial grasses and shrubs, especially during strong wind events or after prolong droughts.
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7. **Amount of litter movement (describe size and distance expected to travel):** Some fine litter will remain at plant bases, but most will transported by wind and water. Woody litter tends to remain under shrub canopies.
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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):** The expected average soil stability rating of 2, with ratings with canopy ranging 1-4 and ratings without canopy range 1-2.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The surface depth ranges from 3-6" in thickness with sandy loams and fine sandy loams. Structure associated with this site are weak medium platy structure parting to moderate granular structure with colors ranging from yellowish red (5YR 5/6) to light reddish brown (5YR 6/4).
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Vegetation is scattered across the landscape and consists of about 80 percent grasses, 15 percent shrubs and 5 percent forbs which promotes infiltration and reduces runoff. Average fetch or distance to nearest perennial plant base is 5 inches with a general range of 2 to 14 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. Soils will have subsurface horizons with strong accumulations of calcium carbonates (Bk horizon) and/or accumulations of sodium (Bn, Btn or Bkn horizons) that are not compacted layers.
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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: Perennial grasses (alkali sacaton, Indian ricegrass, galleta) >>
- Sub-dominant: Shrubs (shadscale, jimmyweed, broom snakeweed) >
- Other: Forbs > Succulents & Cacti
- Additional:
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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.
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14. **Average percent litter cover (%) and depth ( in):**
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Expected total annual production in a normal year is 350 – 450 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: Shadscale, broom snakeweed and rabbitbrush are all native to the site, but can increase and dominate the shrub canopy with disturbance. Non-native annuals that can become established on the site and invade are cheatgrass and Russian thistle.

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17. **Perennial plant reproductive capability:** All plants native to this site are adapted to the climate and are capable of producing seeds, stolons, and/or rhizomes except during the most severe droughts.
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