

Ecological site R035XA107AZ Clay Loam Upland 10-14" 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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Approved by	Byron Lambeth
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- Number and extent of rills:** Rills should not be present on the site.

- Presence of water flow patterns:** Water flow patterns may be common due to the slow permeability and runoff characteristics of the soil.

- Number and height of erosional pedestals or terracettes:** Some terracettes and pedestals may be present on steeper slopes due to the slow permeability and runoff characteristics.

- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground ranges from 30-50%. This site has the potential to produce a moderate percentage of plant cover due to the moderate available water capacity (7 inches average). Drought may cause an increase in bare ground.

- Number of gullies and erosion associated with gullies:** No gullies are present on the site.

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

7. **Amount of litter movement (describe size and distance expected to travel):** Minor amounts of herbaceous and fine woody litter may be transported in water flow pathways. Coarse woody litter remains under shrub and tree 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 soils have a moderate to high resistance (stability ratings of 3-6) to water erosion and a moderate to high resistance to wind erosion.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Surface structure is mostly granular (moderate very fine, fine, medium) to platy (weak fine to medium) with some subangular blocky. Surface thickness is mostly 2 to 3 inches, but ranges from 1 to 8 inches.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** The dominate aspect of the site is a grassland with scattered large and half shrubs followed by lesser amounts of forbs, succulents and occasional trees. The site has a patchy distribution of all plant functional groups. Some locations within the site, especially at higher elevations, may have a light scattered overstory of trees. Canopy cover ranges from 30 to 50% (most cover should be in grasses). Basal cover of plants ranges from 10-20% (most of which is grasses). Both cover values decrease during a prolonged drought.
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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 expected. Some surface horizons are naturally platy. There may also be a strong developed argillic layer below the surface. These are not compaction layers and should not be considered as such.
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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: Warm season bunchgrasses >>
- Sub-dominant: Warm season sod forming grasses > cool season bunchgrasses > Shrubs >
- Other: Cool season sod forming grasses > Trees > Cacti
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** All plant functional groups are adapted to survival in all but the most severe droughts. Severe winter droughts affect shrubs the most. Severe summer droughts affect grasses the most.
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14. **Average percent litter cover (%) and depth (in):** Mostly herbaceous litter with some woody litter.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Average annual production on this site is about 580 lbs./acre in a year of average annual precipitation.

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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: Juniper, cholla, prickly pear, snakeweed, rabbitbrush are all native to the site, but have the potential to increase on the site. Non-native annuals such as cheatgrass and Russian thistle may become dominant on the site and affect biotic integrity and hydrologic function.
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17. **Perennial plant reproductive capability:** All plants native to this site are adapted and are capable of producing seeds, stolons and rhizomes in all but the most severe drought.
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