

Ecological site R035XG707AZ Clay Loam Upland 14-18" 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	05/15/2006
Approved by	S. Cassady
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- Number and extent of rills:** A few minor rills may form due to fine sandy loam and clay loam surface textures, slow permeability, and medium to rapid runoff, especially on steeper slopes.

- Presence of water flow patterns:** Some water flow patterns may form due to slow permeability and medium to rapid runoff, especially on steeper slopes.

- Number and height of erosional pedestals or terracettes:** A few pedestals and terracettes may form, but they should be very short.

- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** This site has an average available water capacity of 5 inches, so it has a moderate to high potential for the production of plant cover. Drought may cause an increase in bare ground.

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

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

7. **Amount of litter movement (describe size and distance expected to travel):** Herbaceous and fine woody litter will be transported in water flow pathways. Coarse woody litter will remain 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):** Soil surface textures are fine sandy loam and clay loam. Most surface horizons have gravels, cobbles, or stones. When well vegetated or covered with rock armor, these soils have a high resistance to both water and 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 to strong, very fine to fine), but some areas have a platy structure (weak to strong, thin to medium). Surface thickness is 2-3 inches. Color is variable depending upon parent materials.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** This site is characterized by a relatively uniform distribution of mostly grasses with some shrubs and a few forbs. Some of the areas may have up to 25% canopy cover of trees. Both canopy and basal cover values (especially canopy cover) decrease during prolonged drought. This type of plant community is moderately to highly effective at capturing and storing precipitation.
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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. Due to fine sandy loam and clay loam surface textures, these soils may be easily compacted, but only within the top 3 inches. Many soils are protected from compaction by rock fragments. Some of the soils have a naturally platy surface structure.
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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: None
- Sub-dominant: warm season bunchgrasses >> cool season colonizing grasses = cool season bunchgrasses > forbs > trees = warm season colonizing grasses > shrubs > cacti = Agave family
- Other:
- 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 years except during the most severe droughts. Severe winter drought affects trees and shrubs most. Severe summer drought affects grasses the most.
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14. **Average percent litter cover (%) and depth (in):** Mostly herbaceous litter with some woody litter. Litter amounts increase during the first few years of drought, then decrease in later years.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 700-800 lbs/ac dry years; 800-1100 lbs/ac median years; 1100-1300 lbs/ac wet years.
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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: Broom snakeweed, Greene rabbitbrush, Ericameria (rubber rabbitbrush), and Opuntia (pricklypear cactus) are all native to the site but have the ability to increase and dominate after heavy grazing. Utah, oneseed, and alligator juniper are also native to the site but also have the ability to increase and dominate after heavy grazing and/or fire exclusion.
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17. **Perennial plant reproductive capability:** All plants native to the site are adapted to the climate and are capable of producing seeds, stolons, and rhizomes in most years except during the most severe droughts.
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