

Ecological site R038XA112AZ Sandy Loam Upland, Deep 12-16" 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	11/18/2010
Approved by	Scott Woodall
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None present on the site.

2. **Presence of water flow patterns:** Water flow patterns are difficult to discern. Soils are coarse textured and provide for very high rates of infiltration. In addition, there are approximately 3-5 perennial grass plants per square yard which provide very high sinuosity to any precipitation that exceeds intake rate of soil.

3. **Number and height of erosional pedestals or terracettes:** None present on the site.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 10-20%

5. **Number of gullies and erosion associated with gullies:** None present on the site.

6. **Extent of wind scoured, blowouts and/or depositional areas:** None present on the site.

7. **Amount of litter movement (describe size and distance expected to travel):** Herbaceous litter is rarely transported from the site due to high intake rates of most soils. Intake rates for most soils are from 2-6 inches per hour.
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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):** Expect values of 5-6 across most of the site. With prolonged extreme drought stability of bare ground areas are expected to decrease due to absence of annual herbaceous litter and its contribution to organic matter of the soil surface.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Weak thin platy parting weak fine and medium granular structure; 1-2% organic matter content; Dry colors range from 7.5YR 5/3 to 10YR 4/2 dry and moist colors range from 7.5YR 3/3 to 10YR 2/2.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Plant community is dominated by perennial bunch grasses that in addition to coarse textured soils promotes very high levels of infiltration and runoff only with very high intensity summer thunderstorms.
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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):** Not present on the site. Bw horizon very rarely has enough density to be mistaken for a compaction layer.
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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: Midgrass
- Sub-dominant: short grasses
- Other: perennial forbs approx = sub shrubs > shrubs approx = trees = cacti = increaser half shrubs
- Additional: Above average winter and spring precipitation can result in annual grasses and forbs having greater production than short grasses
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Very little mortality of most plants. Perennial grasses have less than 5% mortality.
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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):** 550 lbs/ac dry years; 900 lbs/ac average year; 1350 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: Red brome, mesquite, catclaw acacia, turpentine bush, snakeweed, burroweed, and cacti.
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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 and stolons in most years except the most severe droughts.
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