

Ecological site R035XB205AZ Loamy Upland 6-10" p.z. Gypsic

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

Indicators

- Number and extent of rills:** Rare on more gentle slopes (<5 %) and very few expected to occur on steeper slopes (> 5 %).
- Presence of water flow patterns:** In areas of less than 5 percent slope no water flow patterns expected. In areas with greater than 5 percent slope water flow patterns are somewhat common, sinuous and widely scattered.
- Number and height of erosional pedestals or terracettes:** Occasional pedestals form at the base of long lived perennial bunch grasses that occur on the edge of rills and water flow patterns.
- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground ranges from 40-60 percent. Soil may have typically have up to 30 percent rock cover.
- Number of gullies and erosion associated with gullies:** None. Very few on steeper slopes (>5%) or areas adjacent and below exposed bedrock.
- Extent of wind scoured, blowouts and/or depositional areas:** None.

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7. **Amount of litter movement (describe size and distance expected to travel):** On gentle slopes (<5%) most litter accumulates at base of plants and moved by wind or water. Some down slope redistribution caused by water. Some litter removal may occur in flow patterns or rills with deposition occurring at points of obstruction, especially following major storm events. Litter movement will increase with slope.
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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 soil has a natural crust which is very resistant to wind and water erosion. Expected soil stability rating of 3 or 4 under the plant canopies and a rating of 2 to 3 in the interspaces using the soil stability kit test. The average should be a 3.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface horizon is typically 1 to 2 inches deep. Structure is typically weak thick platy to moderate thin platy. Colors are typically light brown (7.5YR 6/4) or yellowish red (5YR 5/6). The A horizon would be expected to be more strongly developed under plant canopies. It is important if you are sampling to observe the A horizon under plant canopies as well as the interspaces. Use the specific information for the soil you are assessing found in the published soil survey to supplement this description.
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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 an even distribution of grasses (55%) with scattered shrubs (35%) and forbs (10%). Both plant cover values decrease during a prolonged drought. This type of plant community is slightly to moderately 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. Subsurface soils have weak structure with typically ranging from fine sandy loam to clay loam. They are natural and not considered compaction 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: Warm season colonizing grasses > Warm season bunch grasses
- Sub-dominant: Cool season bunch grasses > Half-shrubs > Large shrubs
- Other: Perennial forbs > Annual forbs >= Yucca & Cacti
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** During "normal" precipitation years the overall number of dead plants on the site should not be more than 10 percent. During years of severe drought up to 20% mortality may occur on shrubs and perennial grasses.
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14. **Average percent litter cover (%) and depth (in):**

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Average annual production is expected to be 500 lbs/ac. in a year of average precipitation.

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:** Russian thistle and cheatgrass are most likely to invade and increase on the site.

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 drought
