

Ecological site R035XB225AZ Clay Loam Upland 6-10" p.z. 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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Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Somewhat common, especially on steeper slopes. Rills less than 10 feet long due to fine-textured soils and scattered perennial plant cover. Sites armored with coarse fragments (pebbles, gravels and cobbles) will have shorter rills and less frequent.

2. **Presence of water flow patterns:** Somewhat common throughout site. Water flow patterns may be long but should not be connected. On sites armored with coarse fragments will have less evidence of flow patterns, but still common. Water flow patterns will show some signs of deposition.

3. **Number and height of erosional pedestals or terracettes:** Some long-lived plants may show some slight pedestals of less than a ½" on slopes and edges of flow paths. Terracettes are common, especially on slopes.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Expected bare ground range 30-70 depending on amount of surface fragments.

5. **Number of gullies and erosion associated with gullies:** None to very few. When site is well vegetated and covered with rock fragments gullies are stable and will only show minor signs of active erosion.

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

7. **Amount of litter movement (describe size and distance expected to travel):** Litter movement or redistribution by water is common and expected in water flow patterns. Some litter removal in water flow patterns is expected.

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 is 3. Surface fragments, litter, and vegetation cover aid in reducing erosion.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface horizon is 1 to 3 inches deep. Structure is mostly weak-moderate, thin-thick platy or moderate fine prismatic. Color can vary depending on parent material. See specific soil survey for additional site information.

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 even distribution of perennial grasses with scattered low shrubs and is well distributed across the site and lends to slowing runoff and allowing for some infiltration.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None. This site has a sodium-affected layer (Btn) between 2 and 5 inches; this layer may have a prismatic or blocky structure and could be mistaken for a compaction layer as it is somewhat difficult to excavate. This salt-affected layer may be exposed in areas where the surface horizon has been scoured or eroded from the soil surface.

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 grasses >

Sub-dominant: Low shrubs > Cool season grasses > Large shrubs

Other: Forbs > cacti

Additional:

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 the shrubs the most. Severe summer droughts affect grasses the most.

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): The expected annual total production in an average year is 250 – 350 lbs/ac.

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: Mound saltbush, shadscale, snakeweed and rabbitbrush are native to the site but may have the potential to increase with continued disturbance. Cheatgrass, annual wheatgrass, and Russian thistle are non-native annuals that have the potential to invade the site with or without disturbance.
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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/or rhizomes during the most severe droughts.
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