

Ecological site R035XB203AZ Clay Loam Upland 6-10" p.z. Saline

Accessed: 04/26/2024

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	10/19/2010
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Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None expected. Some rill formation is possible, especially on the steeper slopes, due to the loamy surface textures, moderately slow permeability, and medium runoff.

2. **Presence of water flow patterns:** Some minor water flow patterns present, due to the moderately slow permeability and medium runoff characteristics of the soil. Water flow patterns usually less than 6 feet in length with 5-15 percent cover.

3. **Number and height of erosional pedestals or terracettes:** Short pedestals are common on long lived perennial half shrubs and grasses, ranging in height from up to 1-2 inches; terracettes are uncommon. Some terracettes may form, especially on the steeper slopes, due to the moderately slow permeability and medium runoff characteristics.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground averages about 35-55%. Drought may cause a temporary increase in bare ground.

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

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

7. **Amount of litter movement (describe size and distance expected to travel):** Herbaceous fines mainly transported by wind and in water flow pathways. Coarser herbaceous and woody litter will remain under shrub canopies.

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 mostly fine sandy loam, sandy clay loam and clay loam and when well vegetated soils have a moderate resistance to water erosion and a moderate to high resistance to wind erosion. Soil-site aggregate stability ratings should average 3-4 under canopies with a range of 1-5. The aggregate stability ratings should average 2-3 under plant canopies with a range of 1-3.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Surface structure is mostly granular (weak to moderate; fine) and some platy (weak to moderate; thin to strong). Surface thickness is mostly 2 to 4 inches, but ranges up to 8 inches. Color is variable depending upon parent material with hues of 5YR to 10YR.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** This site is characterized by mid and short grasses with scattered shrubs. The plant community composition (by weight) consists of about 70-80% grasses, 15-20% shrubs, 1-5% forbs and 0-1% succulents. Canopy cover ranges from 25 to 40 percent, with most cover provided by grasses. Basal cover range from 10-15%. When well vegetated this site is moderately effective at capturing and storing precipitation. High grass cover and moderate litter cover aids in reducing raindrop impact and promoting infiltration.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None. Some soils will have a well developed shallow argillic horizon on this site that feels like a compacted layer, but is not.

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 colonizing grasses > shrubs > cool season bunch grasses >

Other: forbs > cacti(trace)

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 shrubs 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):** Average annual total production on this site is expected to be 500 to 600 lbs/ac in a year of average annual production.

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, Whipple cholla, Black greasewood, shadscale and sixweeks fescue occur naturally on this site, but can increase with disturbance. Nonnative plants that have the potential to invade this site are cheatgrass, riggut brome and Russian thistle. Native annuals that have the potential to invade this site with disturbance are Crypthantha, mealy goosefoot, whitestem blazingstar, woolly plantain, foxtail barley and flatspine stickseed.

17. **Perennial plant reproductive capability:** All plants native to this site are adapted to the climate and are capable of producing seeds, stolons and rhizomes except during the most severe droughts
