USDA Natural Resources
Conservation Service

Ecological site R060AY026SD
Saline Upland

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

Indicators

1. **Number and extent of rills:** Rills are common on this site, and are connected, beginning formation of small gullies.

2. **Presence of water flow patterns:** Normally broken and irregular becoming continuous on steeper slopes with numerous debris dams.

3. **Number and height of erosional pedestals or terracettes:** Pedestals are somewhat common, but no exposed roots should be present.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 10 to 35 percent is typical on slopes less than 25% (those areas not in association with shale outcropping); 15 to 50 percent on steeper slopes when in association with shale outcropping.

5. **Number of gullies and erosion associated with gullies:** Some gullies may appear in concentrated flow/drainage areas on steeper slopes or on lower slopes where runoff exits the slope. Gullies are typically short (5 feet long or less) and typically about 6-12 inches deep.

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

7. **Amount of litter movement (describe size and distance expected to travel):** Moderate amount of movement of smallest size class litter, slight to moderate movement of medium and sometimes large class litter is possible.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil aggregate stability ratings should typically be greater than 3. Surface organic matter adheres to the soil surface. Soil surface fragments will typically retain structure at least for short periods when dipped in distilled water. Some fragments will dissolve in less than 1 minute.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** A-horizon should be 2 to 4 inches thick with light olive gray colors when moist. Structure should typically be platy parting to fine granular in the A-horizon.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Combination of shallow and deep rooted species (mid & tall rhizomatous and tufted perennial cool- and warm-season grasses) with fine and coarse roots positively influences infiltration.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None.

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: Shrubs >

    Sub-dominant: Rhizomatous wheatgrasses > short warm-season grasses > mid warm-season bunchgrasses > short cool-season bunchgrasses >

    Other: Forbs

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Very little evidence of decadence or mortality. Bunch grasses have strong, healthy centers and shrubs are vigorous.

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):** Production ranges from 400-800 lbs./acre (air-dry weight). Reference value production is 600 lbs./acre (air-dry weight).

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:** State and local noxious weeds

17. **Perennial plant reproductive capability:** All species exhibit high vigor relative to climatic conditions. Do not rate based solely on seed production. Perennial grasses should have vigorous rhizomes or tillers.