USDA Natural Resources
Conservation Service

Ecological site R035XB239AZ
Clayey Fan 6-10" 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.

Author(s)/participant(s)	Steve Cassady, Tom Vanzant, D. Dressler
Contact for lead author	Steve Cassady, Flagstaff ESD Office
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Approved by	Steve Cassady
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None to very few rills occur.

2. **Presence of water flow patterns:** On slopes < = 3 percent none. On slopes > 3 percent water flow patterns of 15 to 30 feet in length at 10 to 15 feet spacing and very sinuous may occur.

3. **Number and height of erosional pedestals or terracettes:** Generally none, but on slopes > 3 percent pedastalling of < 1 inch in height may occur on long-lived plants.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground occurance on a line-point intercept transect ranges from 45 to 55 percent.

5. **Number of gullies and erosion associated with gullies:** None.

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

7. **Amount of litter movement (describe size and distance expected to travel):** Generally none, but on slopes > 3

percent some movement of herbaceous litter is expected, generally limited to the water flow patterns. Movement is less than 5 to 10 feet.

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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):** Average soil surface stability rating under canopy and in interspaces is 1.0 to 1.5.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The soil surface is reddish gray (5YR 5/2), sandy clay loam with coarse, granular structure about 7 inches thick.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** By line point intecept expect grass and grasslikes to have a canopy cover of 24 to 30 percent and a basal cover of 3 to 18 percent. Expect an average fetch of 4 to 6 inches with a maximum fetch distance of 14 to 18 inches.

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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):** No compaction layer occurs. The soil profile describes a layer of sandy clay loam at about 7 inches in depth from the soil surface that with massive structure, hard when dry.

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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:

    Sub-dominant:

    Other:

    Additional: Grass/Grasslikes >> Shrbs >> Forbs.

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Some decadence and mortality is expected. It should be less than 10 percent on a line-point intercept transect, except during and after prolonged, severe drought.

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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):** The median air-dry production is 475 pounds per acre.

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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: Russian thistle and cheatgrass generally occur in minor amounts (< 1%) and potentially could severely invade the site due to severe disturbance. Camelthorn is a common noxious weed in the area with the potential to invade the site.

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17. **Perennial plant reproductive capability:** The only natural limitations to reproductive capability are weather related and natural disease or herbivory that reduces reproductive capability.
