USDA Natural Resources
Conservation Service

Ecological site R085AY189TX
Very Shallow 30-38" PZ

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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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Date	11/01/2005
Approved by	Bryan Christensen
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None. This site does not usually develop rills due to shallow depths.

2. **Presence of water flow patterns:** None. This site rarely has follow patterns due to shallow soil depth and surface rocks. Some patterns are expected around surface obstacles.

3. **Number and height of erosional pedestals or terracettes:** None. Some minor pedestalling may occur in the shallower, lower productiion portions of the site. Rarely should they be over 1/4 inch height.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 5 to 10 percent. Small and non-connected areas.

5. **Number of gullies and erosion associated with gullies:** None. This site does not develop gullies due to shallow soils

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

7. **Amount of litter movement (describe size and distance expected to travel):** Minimal and short. Less than 6 inches. Only associated with water flow patterns following extremely high intensity rainfall.

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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):** Stability class ranges from 4 to 6 for both canopy and interspaces.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Dark grayish brown clay loam surface with subrounded to angular pebbles, cobbles and stones. Thickness is about 7 inches. Soil organic matter is 1 to 4 percent.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** High grass canopy and basal cover with very small gaps between plants reduces rainfall impact and slows runoff providing increased time for infiltration. High vegetative cover on this site will result in more water being retained in the soil for platn growth.

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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.

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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 tallgrasses >>

    Sub-dominant: Warm-season midgrasses >

    Other: Warm-season shortgrasses > forbs = cool-season grasses > trees > shrubs/vines

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Grasses due to their growth habit will exhibit some mortality and decadence though very slight.

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14. **Average percent litter cover (%) and depth (in):** Litter is dominantly herbaceous.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 1000 to 3000 pounds acre. 1000 pounds in below average moisture years, 2000 in "normal" moisture years and 3000 pounds in above average moisture year.

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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: Mesquite, juniper and pricklypear are the primary invaders.

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17. **Perennial plant reproductive capability:** All perennial plants are capable of reproducing except during periods of prolonged drought conditions, heavy natural herbivory and intense wildfires.
