USDA Natural Resources
Conservation Service

Ecological site R150AY532TX
Deep Sand

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

Indicators

1. **Number and extent of rills:** None.

2. **Presence of water flow patterns:** Uncommon.

3. **Number and height of erosional pedestals or terracettes:** Uncommon.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Expect no more than 30 percent bare ground distributed in small patches.

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

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

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7. **Amount of litter movement (describe size and distance expected to travel):** This site has highly permeable soils with high infiltration rates. Only small-sized litter will move short distances during intense storms.

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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):** Soil surface is resistant to erosion. Stability class range is expected to be 2 to 3.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** 40 to 78 inches thick with light brownish gray to very pale brown loamy fine sand, weak medium subangular blocky structure, loose, very friable, common fine roots, and clear smooth boundary. SOM is 0.5 to 1.0 percent.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Under reference conditions, the savannah of trees, shrubs, vines, grasses, and forbs along with adequate litter and little bare ground provides for maximum infiltration and little runoff under normal rainfall events.

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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 Trees

Other: Shrubs/Vines Forbs

Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** There should be little mortality or decadence for any functional group of the reference community.

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

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 2,000 to 4,500 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:** Bahiagrass, post oak, blackjack oak, American beautyberry, and yaupon.

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17. **Perennial plant reproductive capability:** All plants should be capable of reproduction except during periods of prolonged drought conditions, heavy natural herbivory, or intense wildfires.
