USDA Natural Resources
Conservation Service

# Ecological site R081CY561TX
# Loamy Bottomland 29-35 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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| Author(s)/participant(s) | Charles Anderson |
| Contact for lead author | 325.944.0147 |
| Date | 06/27/2005 |
| Approved by | Colin Walden |
| 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:** Most water flow patterns are expected to pass through the site. Some deposition will occur from out of bank flooding.

3. **Number and height of erosional pedestals or terracettes:** None except for a few near the stream or drainageway.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 0-5%, small non connected areas. Some bare areas right after flooding.

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

6. **Extent of wind scoured, blowouts and/or depositional areas:** None to slight. Wind erosion hazard of soil is slight.

7. **Amount of litter movement (describe size and distance expected to travel):** Minimal movement of fine litter< 1 foot.

Large woody debris will accumulate at the base of trees as will other plant debris.

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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):** Erosion stability values estimated at 5-6. Water erosion hazard of soil is slight.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Oakalla soil is dark grayish brown silty clay loam and brown clay loam to 50 inches. The surface layer is subangular blocky. Many fine roots and worm casts. SOM: High

   Refer to specific description for component sampled.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** High canopy, basal cover and density make raindrop impact negligible. Flexible grasses lean over during flooding. The grassed capture sediment, When rainfall exceeds sites ability to hold water the runoff is free of erosive action.

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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 tallgrass (D)

    Sub-dominant: warm-season midgrass (S) cool season grasses shortgrass (S) trees (S)

    Other: forb (M) shrub/vine (M) warm season short grasses.

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Minimal. Grasses will almost always show some mortality and decadence, especially under drought conditions. There is some deadfall of limbs from mature trees.

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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):** 3000 # in years with below average moisture, 4700# in "average" and 6500# in above average moisture years. Site may receive extra moisture from upslope sites and be highly productive in wet years.

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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, pricklypear, juniper, broom snakeweed, algerita, acacia and condalia, introduced bluestems and annual brooweed.

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17. **Perennial plant reproductive capability:** Good. All species should be capable of reproducing except during peroids of of prolonged drought, heavy natural herbivory or intense fire. Recovery from these disturbances will take 2-5 years.

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