USDA Natural Resources
Conservation Service

Ecological site R102CY046NE
Subirrigated

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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)	Stu McFarland, Nadine Bishop
Contact for lead author	
Date	08/01/2013
Approved by	Nadine Bishop
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:** None.

3. **Number and height of erosional pedestals or terracettes:** None.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** <5% as very small (<2”) patches, however, bare ground can be expected to be much higher if litter has been consumed by recent fire.

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):** None.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil stability rating of 6

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** More stable locations typically have a mollic epipedon. In alluvial settings, A horizon can be much more variable. Refer to the Official Series Description for the range of characteristics of site-specific soils.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Robust herbaceous canopy provides nearly 100% coverage reducing raindrop energy, and abundant litter slows overland flow for improved 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: warm-season tallgrasses >>

    Sub-dominant: warm-season midgrasses >

    Other: cool-season grasses = grasslikes = forbs > shrubs

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Slight evidence of perennial decadence or mortality.

14. **Average percent litter cover (%) and depth (in):** However, litter cover could be much lower if consumed by recent fire.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Production ranges from 4,300 - 5,600 lbs/ac (air-dry weight) depending on climatic conditions. The reference representative value production is 5,100 lbs/ac (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:** Eastern redcedar, Kentucky bluegrass, smooth brome, Canada thistle, roughleaf dogwood,

buckbrush, and Siberian elm are some of the more common invaders.

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17. **Perennial plant reproductive capability:** Flowering, seed production, and rhizomatous/stoloniferous growth are apparent and not hindered by plant stress/reduced vigor.
