USDA Natural Resources
Conservation Service

Ecological site R030XB047NV
ALLUVIAL PLAIN

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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	10/19/2011
Approved by	Sarah Quistberg
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:** Waterflow patterns are rare to common depending on site location relative to major inflow areas from higher landscape positions.

3. **Number and height of erosional pedestals or terracettes:** Pedestals are rare with occurrence typically limited to areas within waterflow patterns.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground up to 85%

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):** Fine litter (foliage from grasses and annual & perennial forbs) expected to move distance of slope length during intense summer convection storms. Persistent litter (large woody material) will remain in place except large rainfall events.

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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 stability values should be 1 to 4 on most soil textures found on this site. (To be field tested.)

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Structure of soil surface is medium platy or massive. Soil surface colors are pale brown and soils are typified by an ochric epipedon. Organic matter of the surface 2 to 3 inches is less than 1 percent.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Sparse shrub canopy and associated litter break provide some protection from raindrop impact.

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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):** Compacted layers are none. Massive sub-soil horizons, argillic or natric horizons should not be interpreted as compaction.

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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: Tall shrubs (cattle saltbush)

    Sub-dominant: associated low-statured, shrubs (white bursage, shadscale, etc.) > deep-rooted, cool season, perennial bunchgrasses >annual forbs> perennial forbs = shallow-rooted, warm-season, perennial bunchgrasses

    Other:

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Dead branches within individual shrubs common and standing dead shrub canopy material may be as much as 30% of total woody canopy; mature bunchgrasses commonly (<20%) have dead centers.

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14. **Average percent litter cover (%) and depth (in):** Between plant interspaces and under canopy 10-15% and depth <0.25 inches

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** For normal or average growing season ± 400lbs/ac; Favorable years 500 lbs/ac and unfavorable years 250 lbs/ac

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:** Potential invaders include red brome, Mediterranean grass, redstem filaree, Russian thistle and annual mustards.

17. **Perennial plant reproductive capability:** All functional groups should reproduce in average and above average growing season years. Little growth or reproduction occurs in drought years.