USDA Natural Resources
Conservation Service

Ecological site R026XY021NV
SODIC FLAT

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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	06/01/1979
Approved by	Kendra Moseley
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:** Water flow patterns are rare to common dependent on location relative to major inflow areas. Water flow patterns are typically short, ending in depressional areas where water ponds. Moderately fine to fine surface textures and physical crusts result in limited infiltration rates. Concentrations of surface salts and sodium result in chemical crusts which also impede precipitation infiltration.

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):** Bare Ground ± 80%; surface rock fragments less than 5%; shrub canopy less than 10%; basal area for perennial herbaceous plants ± 2%.

5. **Number of gullies and erosion associated with gullies:** There are "typically" no gullies associated with this site. Where this site occurs on landforms not associated with ephemeral or perennial drainageways, gullies do not occur. Where this site occurs associated with drainageways, gullies are slight to common. Occurrence of gullies is dependent on site location relative to major inflow areas.

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 of grasses and annual & perennial forbs) is expected to move the distance of slope length during periods of intense summer convection storms. Persistent litter (large woody material) will remain in place except during unusually deep flooding (ponding) events.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil stability values will range from 1 to 4. (To be field tested.)

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Structure of soil surface will be platy or massive. Soil surface colors are light grays and the soils are typified by an ochric epipedon. Organic carbon is typically less than 0.9 percent (OM values taken from lab characterization data).

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** This site is typically ponded for short periods in the late winter and runoff is not significant. In areas with herbaceous cover (sparse) of deep-rooted perennial herbaceous bunchgrasses (basin wildrye) and/or rhizomatous grasses (saltgrass), these plants can increase infiltration.

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. Platy or prismatic subsurface layers are normal for this site and are not to be interpreted as compaction.

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: Reference Plant Community: Tall shrubs (black greasewood)> deep-rooted, cool season, perennial bunchgrasses = rhizomatous perennial grass. (By above ground production)

    Sub-dominant: Shallow-rooted, cool season, perennial bunchgrasses > associated shrubs > deep-rooted, cool season, perennial forbs = fibrous, shallow-rooted, cool season, perennial and annual forbs. (By above ground production)

    Other:

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Dead branches within individual shrubs are common and standing dead shrub canopy material may be as much as 35% of total woody canopy.

14. **Average percent litter cover (%) and depth (in):** Under shrubs and between plant interspaces (20-25%) and depth (±

¼ in.)

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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 (March thru May) ± 500lbs/ac; Winter moisture significantly affects total production.

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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:** Rubber rabbitbrush, seepweed, and horsebrush are increasers. Potential invaders include cheatgrass, annual mustards, Russian thistle, halogeton and tall whitetop.

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17. **Perennial plant reproductive capability:** All functional groups should reproduce in average (or normal) and above average growing season years.
