USDA Natural Resources
Conservation Service

Ecological site R028BY020NV
SODIC FLAT 5-8 P.Z.

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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	06/20/2006
Approved by	P.Novak-Echenique
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Typically there are no rills as this site is essentially level.

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 long (10-20 ft), ending in depressional areas where water ponds.

3. **Number and height of erosional pedestals or terracettes:** Plants may have small pedestals where they are adjacent to water flow patterns. Terracettes should not be present. Vegetation occurs mainly on small coppice dunes.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground ~50-70%

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

6. **Extent of wind scoured, blowouts and/or depositional areas:** Wind scouring or blowouts are not evident. Small depositional mounds occur at shrub bases.

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 severe flooding 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 will range from 5 to 6 under shrub canopies and 1 to 3 in the interspaces.

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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 will be thin platy or subangular blocky. Soil surface colors are light grays and soils are typified by an ochric epipedon. Soil surface textures are silt loams, silty clay loams or fine sandy loams. Organic carbon is typically 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:** In areas with cover (although typically sparse) of deep-rooted perennial herbaceous bunchgrasses (basin wildrye) and/or rhizomatous grasses (salt grass) runoff is slowed. 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.

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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. Prismatic or massive subsoil structure is normal for this site and is not to 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: Reference State: tall salt-desert shrubs >

    Sub-dominant: Warm season bunchgrasses > warm season rhizamotous grasses > deep-rooted, cool season, perennial bunch grasses > deep-rooted, cool season, perennial forbs > shallow-rooted, cool season, perennial bunchgrasses

    Other: microbiotic crusts

    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 are common and standing dead shrub canopy material may be as much as 35% of total woody canopy.

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14. **Average percent litter cover (%) and depth (in):** Between plant interspaces 10-15% and depth of litter is ±¼ inch.

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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 (through June) ±300 lbs/ac; Winter moisture significantly affects

total production. Favorable years ±500 lbs/ac and unfavorable years ±150 lbs/ac

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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:** Potential invaders include annual mustards, Russian thistle, halogeton, and cheatgrass.

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