USDA Natural Resources
Conservation Service

Ecological site R028BY004NV
SALINE BOTTOM

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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	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None - this site is essentially flat.

2. **Presence of water flow patterns:** Water flow patterns are rare to common. Water flow patterns are typically long (10-15 ft), an narrow (<1 ft. wide)ending in depressional areas.

3. **Number and height of erosional pedestals or terracettes:** Plants may have small pedestals where they are adjacent to water flow paths. Terracettes should not occur.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground <60%

5. **Number of gullies and erosion associated with gullies:** Gullies are none to common depending on landform. 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 rare to common. Gullies and associated head cuts should be healing and stable.

6. **Extent of wind scoured, blowouts and/or depositional areas:** There is minor evidence of wind scouring with some

deposition occurring under shrubs.

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7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter (foliage of grasses and annual & perennial forbs) only is expected to move during periods of flooding by adjacent streams. Persistent litter (large woody material) will remain in place except during large 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 1 to 3 in the interspaces and 4 to 6 under cover.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface structure may be thin platy, subangular blocky or prismatic. Soil surface colors are light grays or grayish browns and the soils are typified by an ochric epipedon. Organic carbon can range from 1 to 3 percent.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Deep-rooted perennial bunchgrasses (basin wildrye and alkali sacaton] slow runoff and increase infiltration. Tall stature and relatively coarse foliage of basin wildrye and associated litter break raindrop impact and provide opportunity for snow catch and moisture accumulation on site. Moderately fine to fine surface textures result in limited infiltration rates. Concentrations of surface salts and sodium result in chemical crusts which also impedes 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. Massive subsurface layers or calcic horizons are normal for this site and are 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-statured, deep-rooted, cool season, perennial bunchgrasses >>

    Sub-dominant: warm season bunchgrasses > salt desert shrubs >> rhizomatous grasses > other shrubs >Deep-rooted, cool season, perennial forbs=fibrous, shallow-rooted, cool season, perennial and annual forbs.

    Other: grass-likes, microbiotic crusts

    Additional: With an extended drought and water table decline the shrub component would increase at the expense of the herbaceous component.

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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 25% of total woody canopy.

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14. **Average percent litter cover (%) and depth (in):** Within plant interspaces (10-20%) and depth of litter less than 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 (through end of June) ± 1500 lbs/ac; favorable years ± 2200 lbs/ac and unfavorable years ± 800 lbs/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:** Potential invaders include annual mustards, annual kochia, 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 reproductio occur during drought years.
