USDA Natural Resources
Conservation Service

Ecological site R030XB025CA
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	07/20/2012
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:** Waterflow patterns are rare to common depending on site location relative to major inflow areas. Waterflow patterns are typically short, ending in depressional areas where water ponds.

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 up to 80%

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 of grasses and

annual & perennial forbs) expected to move distance of slope length during periods of intense summer convection storms. Persistent litter (large woody material) will remain in place except during 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 will range from 1 to 4. (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 will be moderate to strong medium platy. The soil surface will crust. Soil surface colors are white or pale browns and soils are typified by a natric horizon near the surface. Organic matter is less than 1.0 percent.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** The soils have slow permeability and brief ponding may occur during the winter months. The surface layer will also crust resulting in poor infiltration. Sparse shrub canopy and associated litter provide little protection from raindrop impact. Runoff is slow to moderately rapid.

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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. Subsoil natric or argillic 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: salt-desert shrubs

    Sub-dominant: deep-rooted, warm season, perennial bunchgrasses > deep-rooted perennial forbs > cool season perennial bunchgrasses > fibrous, shallow-rooted, cool season, perennial and annual forbs

    Other: rhizomatous grasses

    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

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14. **Average percent litter cover (%) and depth (in):** Between plant interspaces and under shrubs up to 5% 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) ± 100 lbs/ac; Favorable years 300 lbs/ac and unfavorable years <50 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, annual mustards, Russian thistle.

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