USDA Natural Resources
Conservation Service

Ecological site R028AY020NV
ALKALI SILT 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	05/14/2013
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** This site is nearly flat so rills are not expected.

2. **Presence of water flow patterns:** Water flow patterns are rare to common dependent on site 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. The surface layer will normally crust and bake upon drying, inhibiting water infiltration and seedling emergence. Ponding occurs in late winter/early spring in many areas. Ponding may also occur after heavy summer convection storms.

3. **Number and height of erosional pedestals or terracettes:** Pedestals are none to rare and mainly occur in water flow paths. Terracettes are typically non-existent.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground 70-80%

5. **Number of gullies and erosion associated with gullies:** None - small gullies may form at inflow areas where run-in occurs from adjacent landscapes.

6. **Extent of wind scoured, blowouts and/or depositional areas:** None

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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) expected to move distance of slope length during periods of intense summer convection storms or run in of early spring snow melt flows. Persistent litter (large woody material) will remain in place except during unusual flooding (ponding) 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 3 to 6.

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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 weak and thin platy. Soil surface colors are light grays and soils are typified by an ochric epipedon. Surface textures are silt loams. Organic matter 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:** This site is typically ponded for short periods in the late winter/early spring and runoff is not significant. In areas, with herbaceous cover (sparse) of deep-rooted perennial herbaceous bunchgrasses and/or rhizomatous grasses (western wheatgrass), these plants can aid in 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. Platy, prismatic, or massive subsurface layers 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: salt-desert shrubs (sickle saltbush)

    Sub-dominant: shallow-rooted cool season, perennial bunchgrasses (bottlebrush squirreltail & Sandberg bluegrass) > low-stature shrubs (kochia, shadscale, etc.) > deep-rooted, cool season, perennial bunchgrasses = cool season, rhizomatous grasses = deep-rooted, cool season, perennial forbs = fibrous, shallow-rooted, cool season, perennial and annual forbs.

    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 35% of total woody canopy

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

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) ± 350 lbs/ac; Favorable years ± 500 lbs/ac and unfavorable years ± 200 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, annual kochia, 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 occurs during extended or extreme drought conditions.
