USDA Natural Resources
Conservation Service

Ecological site R055BY060ND
Saline Lowland

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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	04/25/2025
Approved by	Suzanne Mayne-Kinney
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rills are not expected on this site.

2. **Presence of water flow patterns:** Water flow patterns are not visible.

3. **Number and height of erosional pedestals or terracettes:** Neither pedestals nor terracettes are expected.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground is less than 5% occurring as small (less than 2 inches in diameter), scattered, disconnected patches. Slickspots of varying size can occur in complex with this site and will be mostly bare ground with sparse, salt-tolerant vegetation.

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5. **Number of gullies and erosion associated with gullies:** Active gullies are not expected on this site.

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6. **Extent of wind scoured, blowouts and/or depositional areas:** No wind-scoured or depositional areas expected on this site.

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7. **Amount of litter movement (describe size and distance expected to travel):** Plant litter movement not expected.

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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):** Stability class expected to average averages 5 or greater.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Use soil series description for depth, color, and structure of A-horizon.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Tall-statured rhizomatous grasses and mid- and short-statured bunch grasses are dominant and well distributed across the site. Mid- and short rhizomatous grasses are subdominant.

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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):** No compaction layers occur naturally on this site. Naturally occurring platy soil surface structure may be observable.

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: Phase 1.1:
    Tall C4 rhizomatous grasses (2); Mid & short C3 bunch grasses (3)

    Sub-dominant: Phase 1.1:
    Mid & short C3 rhizomatous grasses (2); Mid & short C4 rhizomatous grasses (2)

    Other: Minor - Phase 1.1:
    Forbs; Shrubs

    Additional: Due to differences in phenology, root morphology, soil biology relationships, and nutrient cycling Kentucky bluegrass, smooth brome, and crested wheatgrass are included in a new Functional/structural group, mid- and short-statured early cool-season grasses (MSeC3), not expected for this site.

    To see a full version 5 rangeland health worksheet with functional/structural group tables, please use the following hyperlink:
    https://efotg.sc.egov.usda.gov/references/public/ND/55B_Saline_Lowland_Narrative_F

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Rare to not occurring on this site.

14. **Average percent litter cover (%) and depth (in):** Plant litter cover is 45 to 65% with a depth of 0.25 to 0.5 inches. Litter is in contact with the soil surface.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Annual air-dry production is 3800 lbs./ac (reference value) with normal precipitation and temperatures. Low and high production years should yield 2800 lbs./ac to 4800 lbs./ac, respectively.

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: State and local noxious species, Kentucky bluegrass, smooth bromegrass, crested wheatgrass, quackgrass, and Russian olive.

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17. **Perennial plant reproductive capability:** Noninvasive species in all functional/structural groups are vigorous and capable of reproducing annually under normal weather conditions.
