

Ecological site R029XY018NV SODIC DUNE

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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.

Author(s)/participant(s)	GK BRACKLEY
Contact for lead author	State Rangeland Management Specialist
Date	06/20/2006
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rills are rare. A few can be expected on steeper slopes in areas subjected to summer convection storms or rapid spring snowmelt.

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2. **Presence of water flow patterns:** Water flow patterns none to rare.

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3. **Number and height of erosional pedestals or terracettes:** Pedestals are common with occurrence due to wind scouring.

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground \pm 70%; surface rock fragments less than 5%; shrub canopy 15 to 20%; basal area for perennial herbaceous plants <5%.

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5. **Number of gullies and erosion associated with gullies:** Gullies are rare.

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6. **Extent of wind scoured, blowouts and/or depositional areas:** Slight to moderate wind scouring.
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7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter (foliage from grasses and annual & perennial forbs) is expected to move unsheltered distance during heavy wind. Persistent litter (large woody material) will remain in place except during intense summer storms.
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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 should be 1 to 4 on the sandy soil textures found on this site. (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):** Surface structure is typically single grain. Soil surface colors are light and are typified by an ochric epipedon. Organic carbon of the surface 2 to 3 inches is typically 1 to 1.5 percent dropping off quickly below. Organic matter content can be more or less depending on micro-topography.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Perennial herbaceous plants (especially deep-rooted bunchgrasses [i.e., Indian ricegrass] slow runoff and increase infiltration. Shrub canopy and associated litter break raindrop impact and provide opportunity for snow catch and accumulation on site.
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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):** None
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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 Plant Community: Tall shrubs (black greasewood & fourwing saltbush) > deep-rooted, cool season, perennial bunchgrasses. (By above ground production)
- Sub-dominant: Associated, low-statured, shrubs > rhizomatous grasses = shallow-rooted, cool season, perennial grasses = deep-rooted, perennial, forbs = fibrous, shallow-rooted, cool season, perennial forbs = annual forbs. (By above ground production)
- 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 are common and standing dead shrub canopy material may be as much as 40% of total woody canopy; some of the mature bunchgrasses ($\pm 25\%$) have dead centers.
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14. **Average percent litter cover (%) and depth (in):** Between plant interspaces (<5%) and depth of litter is $\pm \frac{1}{4}$ 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 (February thru May) ± 300 lbs/ac; Spring moisture significantly

affects total production.

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: Cheatgrass; Douglas"" rabbitbrush; horsebrush, snakeweed; halogeton; Russian thistle; annual mustards, annual kochia, bassia
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17. **Perennial plant reproductive capability:** All functional groups should reproduce in average (or normal) and above average growing season years.
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