

## Ecological site R069XY033CO Salt 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  | 01/12/2005                                   |
| Approved by                                 | Kirt Walstad                                 |
| Approval date                               |  |
| Composition (Indicators 10 and 12) based on | Annual Production                            |

### Indicators

1. **Number and extent of rills:** None

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2. **Presence of water flow patterns:** None where vegetation is continuous. Slick spots (high sodium areas) can pond water and concentrate overland flow. Flow paths should be short in length and disconnected.

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3. **Number and height of erosional pedestals or terracettes:** None to slight depending on flow coming from slick spots.

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** The site has 5-10 percent bare ground or less. Bare areas can range from 3-5 inches around bunch grasses and up to 1-2 feet when slick spots exist. Bare ground includes slick spots, which are inherent to this site. Extended drought may cause bare ground to increase up to 15 percent (includes slick spots).

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5. **Number of gullies and erosion associated with gullies:** None

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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):** None to minimal.
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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 rating is anticipated to be 5-6 under canopy, and 3-4 on slick spots. On-site verification is needed.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** SOM ranges from 1-2 percent. Soils are deep, well drained, strongly sodic, saline, and very strongly alkaline. The A-horizon color is light brownish-gray at 0-4 inches in depth. The structure is weak, very fine granular.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Raindrop impact is reduced by the diverse grass, forb, shrub functional/structural groups and root structure. This slows overland flow and provides increased time for infiltration to occur. Extended drought, wildfire or both may reduce basal density, canopy cover, and litter amounts (primarily from tall, warm-season bunch and rhizomatous grasses), resulting in decreased infiltration and increased runoff on steep slopes following intense rainfall events.
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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: Warm-season mid bunchgrass >
- Sub-dominant: Cool-season mid rhizomatous > cool-season mid bunchgrass = warm-season short bunchgrass > shrubs >
- Other: forbs = warm-season mid rhizomatous > warm-season short rhizomatous
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** None to minimal. Slight mortality and decadence can be observed on warm-season bunch grasses.
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14. **Average percent litter cover (%) and depth ( in):** Litter cover during and following extended drought ranges from 15-25 percent.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 400 lbs./ac. low precipitation years; 1000 lbs./ac. average precipitation years; 1400 lbs./ac. high precipitation years. After extended drought or the first growing season following wildfire, production may be significantly reduced by 250 – 400 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: Invasive plants should not occur in reference plant community. Russian thistle, burninbush, or other non-native alkali tolerant species may invade following extended drought or fire assuming a seed source is available.
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17. **Perennial plant reproductive capability:** The only limitations are weather related, wildfire, and natural disease that reduces reproductive capability.
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