

## Ecological site R040XD006CA Hyper-Arid Abandoned Fans 2-4" p.z.

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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	07/14/2009
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

### Indicators

- Number and extent of rills:** Rills are none to rare. Rock fragments armor the soil surface against erosion.
- Presence of water flow patterns:** Water flow patterns are none to few. This is an abandoned alluvial fan which no longer receives sheet flow from higher elevations. Any water flow patterns which may develop are dependent on the very little bit of on-site precipitation this site may receive. Also, rock fragments armor the soils and prevent water flow patterns from developing.
- Number and height of erosional pedestals or terracettes:** Pedestals and terracettes are none.
- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground is variable (5-10%) depending on surface rock fragments.
- Number of gullies and erosion associated with gullies:** These site is usually on small relict fans which stand up above active alluvial fans. There should be no gullies on this site, however; channel avulsion and head ward erosion from nearby washes could lead to the formation of gullies (or wash expansion) on this site.
- 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):** Litter typically remains in place or is trapped under the first plant encountered. 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 should be 3 to 6 on most soil textures and varies depending on canopy cover.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface structure is typically medium to thick platy or weak fine granular. Soil surface colors are light and the soils have an ochric epipedon. Organic matter of the surface 2 to 3 inches is 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:** Sparse shrub canopy and associated litter break raindrop impact.
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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. Subangular blocky structure, or massive or calcic sub-surface horizons are not to be interpreted as compacted layers.
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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: Creosotebush
- Sub-dominant: annual forbs > desert shrubs > perennial and annual grasses
- 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 25% of total woody canopy.
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14. **Average percent litter cover (%) and depth ( in):** Litter is concentrated under shrubs and generally stays in place.
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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 ~60 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: Red brome, red-stem filaree, mustards, and Mediterranean grass are invaders on this site.
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17. **Perennial plant reproductive capability:** All functional groups should reproduce in normal and above-normal rainfall years.
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