

## Ecological site R039XA141AZ Cindery-Ashy Upland 17-22"

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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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Approved by	Scott Woodall
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

### Indicators

- Number and extent of rills:** None due to extensive armor of volcanic gravels and cinders on the surface.

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- Presence of water flow patterns:** Expect 2 or 3 on a 150-ft tape; this only happens occasionally in a major hydrologic event as the surface is covered in volcanic gravels and cinders.

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- Number and height of erosional pedestals or terracettes:** None due to protection of the soil surface by gravels and cinders.

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- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Generally there is no unprotected surfaces on this site. It is covered with gravels and cinders of volcanic origin.

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- Number of gullies and erosion associated with gullies:** None

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- Extent of wind scoured, blowouts and/or depositional areas:** Some small areas at the base of small cindery hills that have little to no vegetation may have deposition of cinders and ash at the base and have a slight increase in the amount of vegetation. No areas of wind scour or blowouts.

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7. **Amount of litter movement (describe size and distance expected to travel):** There is very little litter movement on this site. Most of it remains where it falls. There is commonly pine needle and other herbaceous litter from grasses and shrubs.
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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):** All of the soil samples here rank as a 1 or 2. However due to the coverage of gravel and volcanic cinders on the surface, this site is resistant to erosion.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Th soil surface on this site is weak and poorly developed. There is low organic matter throughout the soil profile on this site.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** There are large clumps of vegetation on this site of trees and shrubs, with very few grasses and grasslike plants. This vegetation normally would promote low infiltration and high runoff. There is an extensive cover of cinders on the site, however, which allows for the rapid infiltration and low runoff which allows for the growth of ponderosa pines on such a low production site and soil.
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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: Shrubs>Trees>>Herbaceous
- Sub-dominant:
- Other:
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Some tree die-off expected on this site as the area has been hard hit by drought and insects.
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14. **Average percent litter cover (%) and depth ( in):**
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Dalmation toadflax is an invader which may increase with lack of fire and/or other managed treaments.
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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: Dalmation toadflax and broom snakeweed may invade this site.
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17. **Perennial plant reproductive capability:** Scattered throughout this park are infestations of Ips beetles which may slow down reproduction of the ponderosa pine trees during drought and heavy infestation and also crowded conditions. Other shrubby and herbaceous species are not affected and are able to reproduce normally.
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