Ecological site R030XB208CA
CORA-AMDU2-(SICH) Fan Remnants

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General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Ecological site concept

This ecological site occurs on fan aprons and fan remnants. It occurs at elevations of 2950 to 3610 feet. Slopes are typically between 4 and 8 percent, and the site is found on all aspects. Flooding frequency is very rare to rare, and flooding duration is extremely brief. Ponding does not occur on this ecological site.

Please refer to group concept R030XB192CA to view the provisional STM.

Table 1. Dominant plant species

Tree	Not specified
Shrub	(1) *Coleogyne ramosissima* (2) *Ambrosia dumosa*
Herbaceous	Not specified

Physiographic features

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Runoff is _____.

Table 2. Representative physiographic features

Landforms	(1) Fan apron (2) Fan remnant
Flooding duration	Extremely brief (0.1 to 4 hours)
Flooding frequency	Very rare to rare
Elevation	2,950–3,610 ft
Slope	4–8%
Water table depth	60 in
Aspect	Aspect is not a significant factor

Climatic features

Influencing water features

Soil features

This ecolgical site is found on alluvial soils derived from granitoid. Soils are very deep and have loamy sand or sandy loam surface textures. The subsurface texture is loamy or sandy. Rock fragments less than 3 inches in diameter compose 50 to 75 percent of the surface cover and up to 10 percent of the subsurface volume. Rock fragments greater than 3 inches in diameter compose up to 5 percent of the surface cover and compose a trace amount of the subsurface volume. Soils are well drained to excessively drained, and permeability is _____. Available water capcity is _____.

This ecological site is found on the following soil series:

Cajon--Mixed, thermic Typic Torripsamments
Helendale--Coarse-loamy, mixed, superactive, thermic Typic Haplargids
Bluecut--Fine-loamy, mixed, superactive, thermic Typic Paleargids
Silvermine--Sandy, mixed, thermic Cambidic Haplodurids

Table 3. Representative soil features

Surface texture	(1) Loamy sand (2) Sandy loam
Family particle size	(1) Sandy
Drainage class	Well drained to excessively drained
Soil depth	60 in
Surface fragment cover <=3"	50–75%
Surface fragment cover >3"	0–5%

Calcium carbonate equivalent (0-40in)	0–1%
Electrical conductivity (0-40in)	0–2 mmhos/cm
Sodium adsorption ratio (0-40in)	0–5
Soil reaction (1:1 water) (0-40in)	6.5–8
Subsurface fragment volume <=3" (Depth not specified)	5–10%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

Please refer to group concept R030XB192CA to view the provisional STM.

The major factors affecting this ecological site are soil stability and climate. This ecological site is located in a transitional growing environment. It is found at elevations cool enough to support blackbrush (*Coleogyne ramosissima*) and warm enough to support burrobush (*Ambrosia dumosa*). The stable soils support long-lived blackbrush. Burrobush is also frequently found on stable landforms.

The presence of large amounts of blackbrush suggests that historically disturbances to this area were neither common nor intense. The major disturbance that currently affects this ecological site is urban development. Development may reduce native ground cover, and alter hydrology and species composition. Disturbed and unoccupied surfaces are more favorable to non-native species establishment. Non-native species annual grasses such as red brome (*Bromus rubens*) and cheatgrass (*Bromus tectorum*) can easily spread to relatively undisturbed areas. This can increase the risk of wildfire by making a more continuous, easily ignitable fuel bed (Clarke 2006). Wildfire may be a more significant hazard where this ecological site exists in more continuous extent away from urban areas. Water diversion may also change species composition. In areas to which water has been diverted, species more tolerant of disturbances become more common. These include burrobrush (*Hymenoclea salsola*), desert senna (*Senna armata*), and Wiggins' cholla (*Cylindropuntia echinocarpa*) which may sprout from easily dislodged joints. Coupled with decreased ground cover, water diversion may also increase erosion from the site.

Blackbrush communities are likely to be significantly altered by fire or other widespread disturbance. The ability of blackbrush to recolonize a disturbed site is severely limited by infrequent seedling establishment, and blackbrush does not resprout. Burrobush has the potential to re-establish on the site by seed.

State and transition model

Ecosystem states

1. Blackbrush-burrobush

State 1 submodel, plant communities

1.1. Blackbrush-burrobush

State 1
Blackbrush-burrobush

Community 1.1
Blackbrush-burrobush

The dominant species in this ecological site are blackbrush (*Coleogyne ramosissima*) and burrobush (*Ambrosia dumosa*). There may be high variability in other species such as Mojave yucca (*Yucca schidigera*), jojoba (*Simmondsia chinensis*), creosote bush (*Larrea tridentata*), and Nevada jointfir (*Ephedra nevadensis*). While these species may be locally abundant, they are not consistently present throughout the site. Vegetation Canopy Cover: Shrubs: burrobush (*Ambrosia dumosa*) 5-10% blackbrush (*Coleogyne ramosissima*) 5-10% Wiggins' cholla (*Cylindropuntia echinocarpa*) 1-2% branched pencil cholla (*Cylindropuntia ramosissima*) 1-2% California ephedra (*Ephedra californica*) 0-1% Nevada jointfir (*Ephedra nevadensis*) 1-3% Eastern Mojave buckwheat (*Eriogonum fasciculatum*) 0-1% burrobrush (*Hymenoclea salsola*) 0-1% littleleaf ratany (*Krameria erecta*) 0-1% white ratany (*Krameria grayi*) 0-1% creosote bush (*Larrea tridentata*) 1-3% water jacket (*Lycium andersonii*) 1-2% Mojave indigobush (*Psorothamnus arborescens*) 0-1% Mexican bladdersage (*Salazaria mexicana*) 0-2% desertsenna (*Senna armata*) 1-3% jojoba (*Simmondsia chinensis*) 1-3% Mojave cottonthorn (*Tetradymia stenolepis*) 1-2% Joshua tree (*Yucca brevifolia*) 1-2% Mojave yucca (*Yucca schidigera*) 3-7% other shrubs 0-1% Grasses: red brome (*Bromus rubens*) 1-5%% cheatgrass (*Bromus tectorum*) 1-2% big galleta (*Pleuraphis rigida*) 1-3% Mediterranean grass (Schismus spp.) 3-5% Forbs: bristly fiddleneck (*Amsinckia tessellata*) 0-1% white margin sandmat (*Chamaesyce albomarginata*) 0-1% pincushion flower (*Chaenactis fremontii*) 1-10% redstem stork's bill (*Erodium cicutarium*) 1-3% Great Basin langloisia (*Langloisia setosissima*) 0-1% desert dandelion (*Malacothrix glabrata*) 1-10% small wirelettuce (*Stephanomeria exigua*) 0-1%

other annual forbs 1-2%

Table 4. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Shrub/Vine	80	160	275
Forb	40	80	150
Grass/Grasslike	30	65	120
Total	**150**	**305**	**545**

Table 5. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	20-35%
Grass/grasslike foliar cover	3-7%
Forb foliar cover	5-15%
Non-vascular plants	0%
Biological crusts	0%
Litter	10-15%
Surface fragments >0.25" and <=3"	40-60%
Surface fragments >3"	0-5%
Bedrock	0%
Water	0%
Bare ground	15-30%

Table 6. Canopy structure (% cover)

Height Above Ground (Ft)	Tree	Shrub/Vine	Grass/ Grasslike	Forb
<0.5	–	0-1%	3-5%	5-15%
>0.5 <= 1	–	10-15%	1-3%	1-3%
>1 <= 2	–	15-25%	–	–
>2 <= 4.5	–	0-1%	–	–
>4.5 <= 13	–	0-1%	–	–
>13 <= 40	–	–	–	–
>40 <= 80	–	–	–	–
>80 <= 120	–	–	–	–
>120	–	–	–	–

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Shrub/Vine					
1	**Shrubs**			80–275	
	burrobush	AMDU2	*Ambrosia dumosa*	30–60	–
	Mojave yucca	YUSC2	*Yucca schidigera*	10–50	–
	blackbrush	CORA	*Coleogyne ramosissima*	10–40	–
	creosote bush	LATR2	*Larrea tridentata*	5–25	–
	jojoba	SICH	*Simmondsia chinensis*	5–25	–
	desertsenna	SEAR8	*Senna armata*	5–15	–
	Nevada jointfir	EPNE	*Ephedra nevadensis*	5–15	–
	Eastern Mojave buckwheat	ERFA2	*Eriogonum fasciculatum*	1–5	–
	burrobrush	HYSA	*Hymenoclea salsola*	1–5	–
	Wiggins' cholla	CYEC3	*Cylindropuntia echinocarpa*	1–5	–
	branched pencil cholla	CYRA9	*Cylindropuntia ramosissima*	1–5	–
	Mexican bladdersage	SAME	*Salazaria mexicana*	1–5	–
	Mojave cottonthorn	TEST2	*Tetradymia stenolepis*	1–5	–

	water jacket	LYAN	*Lycium andersonii*	1–3	–
	littleleaf ratany	KRER	*Krameria erecta*	1–3	–
	white ratany	KRGR	*Krameria grayi*	0–2	–
	California jointfir	EPCA2	*Ephedra californica*	0–2	–
	Mojave indigobush	PSAR4	*Psorothamnus arborescens*	0–2	–
	Joshua tree	YUBR	*Yucca brevifolia*	1–2	–
Grass/Grasslike					
2	**Grasses**			30–120	
	common Mediterranean grass	SCBA	*Schismus barbatus*	10–40	–
	red brome	BRRU2	*Bromus rubens*	10–40	–
	big galleta	PLRI3	*Pleuraphis rigida*	5–25	–
	cheatgrass	BRTE	*Bromus tectorum*	5–15	–
Forb					
3	**Forbs**			40–150	
	smooth desertdandelion	MAGL3	*Malacothrix glabrata*	10–40	–
	pincushion flower	CHFR	*Chaenactis fremontii*	10–40	–
	redstem stork's bill	ERCI6	*Erodium cicutarium*	10–40	–
	small wirelettuce	STEX	*Stephanomeria exigua*	5–15	–
	Great Basin langloisia	LASE3	*Langloisia setosissima*	1–5	–
	Forb, annual	2FA	*Forb, annual*	1–5	–
	whitemargin sandmat	CHAL11	*Chamaesyce albomarginata*	1–5	–

Hydrological functions

The hydrology of this ecological site may be altered by water diversions created by urban development.

Contributors

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Approval

Sarah Quistberg, 2/25/2025

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)	
Contact for lead author	
Date	05/20/2025
Approved by	Sarah Quistberg
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

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2. **Presence of water flow patterns:**

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3. **Number and height of erosional pedestals or terracettes:**

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

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5. **Number of gullies and erosion associated with gullies:**

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6. **Extent of wind scoured, blowouts and/or depositional areas:**

7. **Amount of litter movement (describe size and distance expected to travel):**

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

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:

    Sub-dominant:

    Other:

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

14. **Average percent litter cover (%) and depth (in):**

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-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:**

17. **Perennial plant reproductive capability:**